JUL 6 1987

C 55.36:ERL ARL-11

NOAA Data Report ERL ARL-11

ECC OZONESONDE OBSERVATIONS AT SOUTH POLE, ANTARCTICA, DURING 1986

W. D. Komhyr
P. R. Francois
B. C. Halter
C. C. Wilson

Air Resources Laboratory
Silver Spring, Maryland
May 1987

COMPLETED

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / Environmental Research Laboratories

NOAA Data Report ERL ARL-11

ECC OZONESONDE OBSERVATIONS AT SOUTH POLE, ANTARCTICA, DURING 1986

W. D. Komhyr
Geophysical Monitoring for Climatic Change
Boulder, Colorado

R. H. Grammois
B. C. Halter
Cooperative Institute for Research in Environmental Sciences
University of Colorado
Boulder, Colorado

T. C. Wilson
Pacific Marine Environmental Laboratory
Seattle, Washington

Air Resources Laboratory
Silver Spring, Maryland
May 1987

UNITED STATES
DEPARTMENT OF COMMERCE

Malcolm Baldrige,
Secretary

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

Anthony J. Calio,
Administrator

Environmental Research
Laboratories

Vernon E. Derr,
Director

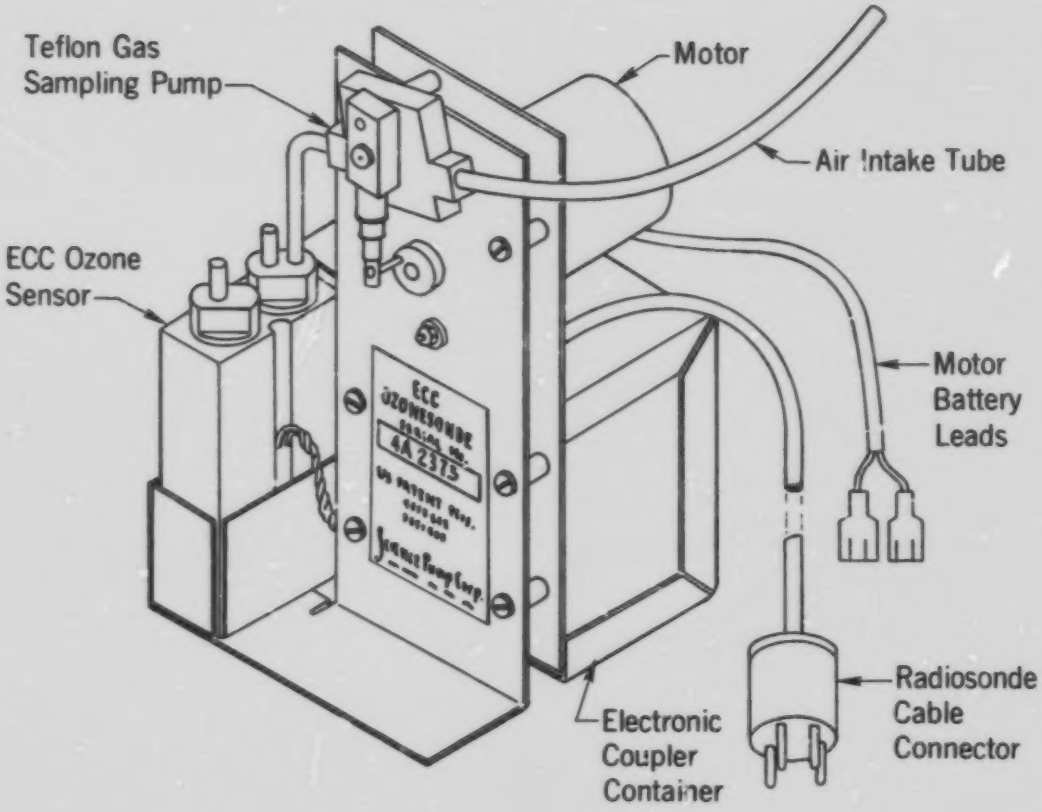
NOTICE

Mention of a commerical company or product does not constitute an endorsement by NOAA/ERL. Use for publicity or advertising purposes of information from this publication concerning proprietary produ ts or the tests of such products is not authorized.

For sale by the National Technical Information Service, 5285 Port Royal Road
Springfield, VA 22161

CONTENTS

	Page
ABSTRACT	1
1. INTRODUCTION	1
2. INSTRUMENTATION	2
3. FLIGHT PROCEDURES	4
4. DATA PROCESSING	4
5. OZONE MEASUREMENT UNCERTAINTY	6
6. DATA PRESENTATION	7
7. DATA ARCHIVING	8
8. ACKNOWLEDGMENTS	8
9. REFERENCES	9
LIST OF SOUNDINGS	11
THE DATA	12



MODEL 4A BALLONBORNE
ELECTROCHEMICAL CONCENTRATION CELL (ECC)
OZONESONDE

BEST COPY AVAILABLE

ECC OZONESONDE OBSERVATIONS AT SOUTH POLE, ANTARCTICA, DURING 1986

W.D. Komhyr, P.R. Franchois*, B.C. Halter*, C.C. Wilson†

ABSTRACT. Atmospheric ozone vertical distributions, air temperatures, and wind speed and wind direction data are presented for 51 balloon ozone-radiosonde soundings made at South Pole, Antarctica, in 1986.

1. INTRODUCTION

Atmospheric ozone vertical distribution measurements with electrochemical concentration cell (ECC) ozonesondes were made by the NOAA Air Resources Laboratory at South Pole Station in 1986 to study the ozone decrease indicated in Antarctica in recent years by Dobson spectrophotometer (Farman et al., 1985; Komhyr et al., 1986; Chubachi and Kajiwara, 1986) and satellite (Stolarski et al., 1986) total ozone observations. Similar measurements were first made at several stations in Antarctica (Byrd, Hallet, South Pole, Wilkes) by the Air Resources Laboratory during 1962-1966 (Komhyr and Grass, 1968). Instruments used then were Regener chemiluminescent ozonesondes (Regener, 1964) and predecessors of ECC ozonesondes, i.e., carbon-iodine (C-I) sondes (Komhyr, 1964). Additional ozone vertical distribution measurements were made at South Pole with ECC ozonesondes during 1967-1971.

Present Affiliations:

* Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80303.
† NOAA, Pacific Marine Environmental Research Laboratory, Seattle, Washington 98115.

2. INSTRUMENTATION

The ECC ozonesonde (Komhyr, 1969) is composed of an ECC ozone sensor, a battery-powered Teflon gas-sampling pump, and an electronic coupler and sequencing switch that connects the ozone sensor to a 1680-MHz radiosonde for data telemetry. During balloon ascent, data transmitted are air pressure, air temperature, relative humidity, ozone, and ozone "zero" and "calibrate" signals. The data sequencing switch is operated by the pump motor through a gearing arrangement, enabling pump motor speed to be monitored. The instrument measures 7.6 × 7.9 × 13.3 cm and weighs 390 g. During flight, it is encased in a weatherproof, polystyrene flight box whose outside dimensions are 19.1 × 19.1 × 25.4 cm. Total weight of the flight package is 650 g, including batteries.

The ECC ozone sensor is made of two bright platinum electrodes immersed in potassium iodide solutions of different concentrations contained in separate cathode and anode chambers. The chambers are linked together with an ion bridge that, in addition to providing an ion pathway, retards mixing of the cathode and anode electrolytes and thereby preserves their concentrations. The electrolytes also contain potassium bromide and a buffer whose concentrations in each half-cell are the same. Driving e.m.f. for the cell is approximately 0.13 V at 25°C, and is defined by

$$E \approx -\frac{0.0591}{2} \log \frac{(a_1)_{I_3^-} (a_3)^2_{I^-}}{(a_4)_{I_2} (a_2)^3_{I^-}} , \qquad (1)$$

where a_1, a_2 are the activities, respectively, of the triiodide and iodide within the anode half-cell, and a_3, a_4 are the activities, respectively, of the iodide and iodine within the cathode half-cell. When ozone in air enters the sensor, I_2 is formed in the cathode half-cell according to the relation

$$2KI + O_3 + H_2O \rightarrow 2KOH + I_2 + O_2 \ . \qquad (2)$$

The cell converts the iodine to iodide in accordance with the overall cell reaction

$$3I^-(a_2) + I_2(a_4) \rightarrow I_3^-(a_1) + 2I^-(a_3) \ , \qquad (3)$$

and the ozone concentration in the sampled air is derived from

$$p_3 = 4.307 \times 10^{-3}\ iT_bt \ , \qquad (4)$$

where p_3 is the ozone partial pressure in micromillibars, i is the sensor current due to ozone in microamperes, T_b is the sonde box temperature in kelvins (approximately equal to the sonde pump temperature), and t is the time in seconds taken by the ozonesonde gas sampling pump to force 100 ml of air through the sensor. To achieve 1:1 stoichiometry in the conversion by the sensor of O_2 to I_2, cathode sensing solution concentration employed is 1% KI.

Within the ECC sonde, air is forced through the sensor by means of a nonreactive pump fabricated from TFE Teflon impregnated with glass fibers. The Model 4A sondes flown at South Pole are equipped with piston-cylinder-type pumps having circular cross section. Grooves cut externally into the pump cylinders are fitted with rubber O-rings that press against thin, flexible portions of the cylinders to maintain an air-tight seal between the cylinder and piston. Pumping efficiency for such pumps depends on ambient air pressure, the pump dead volume, and the pump head (the back pressure exerted on the pump by the sensor cathode electrolyte). All soundings at South Pole were made using 3.0 cm^3 of cathode electrolyte. Flight simulations in an environmental chamber, using sensors filled with 3.0 cm^3 cathode sensing solution, yielded pump efficiencies

that were near 1.00 at ambient air pressures greater than 100 mb, but that decreased to 0.99, 0.97, 0.95, 0.92, 0.88, and 0.85 at pressures of 50, 20, 10, 5, 3, and 2 mb, respectively.

3. FLIGHT PROCEDURES

The ECC ozonesondes were prepared for use and flown in accordance with instructions provided in NOAA Technical Memorandum ERL ARL-149 (Komhyr, 1986). Helium-filled, 538-m^3 (19,000-ft^3) plastic balloons were the flight vehicles for most of the soundings. These balloons attain a pressure altitude of 8-10 mb. Smaller rubber balloons were used occasionally when surface winds (>5 m s^{-1}) precluded successful launchings of the plastic balloons. Early in 1986, several flights were made with larger, 3991-m^3, (141,000-ft^3) plastic balloons capable of attaining pressure altitudes of 3 mb. Because of difficulties experienced in filling and launching these balloons at very cold temperatures, use of the large balloons was abandoned.

Soundings were not made successfully during May 1986 because of problems with rubber balloons bursting at low altitudes. Some data loss occurred for soundings made in November 1986 caused by problems with radiosonde signal-receiving gear.

4. DATA PROCESSING

Ozone, air pressure, air temperature, and humidity data were extracted from each 1680-MHz radiosonde flight record at 1-min intervals, and were processed by computer in accordance with instructions in NOAA Technical Memorandum ERL

ARL-149 (Komhyr, 1986). Measured ozone amounts were corrected for pump efficiency decrease with altitude, and for pump motor speed variations (which occurred rarely).

For a sounding terminating at a pressure altitude between 27 and 7.8 mb, ECC sonde total ozone was deduced from integration of the ozone profile extended above flight altitude to 1 mb along a constant ozone mixing ratio line, the constant mixing ratio being that measured at the maximum altitude attained by the balloon. When an independent measure of total ozone was available (e.g., from ozone measurement with a Dobson spectrophotometer), a correction factor for the sonde data was determined from a ratio of the two total ozone values. All sonde ozone values were then corrected by the factor.

For a sounding terminating at a pressure altitude less than 7.8 mb, ECC sonde total ozone and the ozone correction factor were determined as described above, but with the assumption of flight termination at 7.8 mb. (Integration of the ECC sonde ozone profile data beginning at pressures less than 7.8 mb was not resorted to since the reliability of the sonde data is believed to decrease at pressure altitudes approaching 3 mb.)

Estimates of total ozone from the ECC sonde data were not made for flights terminating at pressure altitudes greater than 27 mb.

As indicated above, intercomparisons of ECC ozonesonde data with ozone vertical distributions obtained with more sophisticated and expensive ozone instruments suggest that ozone values measured by ECC sondes may be too low above about 10 mb. The reason for the low values, if real, is currently unknown, but may be due to a bias in the pump efficiency curve used in the data

processing. Assuming that the values above 10 mb are low, users of ECC sonde data may apply the following empirical corrections to data presented here (or archived at the WMO Ozone Data Centre in Canada):

$$y = 1.719 - 0.807\ln x + 0.297(\ln x)^2 - 0.0367(\ln x)^3 \qquad (5)$$

where y is the correction factor and x is the air pressure in mb. Additional research is needed to verify the adequacy of these corrections.

5. OZONE MEASUREMENT UNCERTAINTIES

Ozone measurement accuracy is ±10% in the troposphere, ±5% in the stratosphere to 10 mb, and ±5 to ±20% between 10 and 3 mb (Hilsenrath et al., 1986). Ozone measurement precision (at the 95% confidence interval level) is estimated to be ±5% in the troposphere, 2-3% in the stratosphere to 10 mb, and 3-10% between 10 and 3 mb (Komhyr et al., 1985). Where comparison data were available, total ozone amounts derived from the 1986 South Pole ECC ozonesonde profiles agreed closely with Dobson spectrophotometer total ozone data for January-October 1986. Exceptions were the soundings of 19 August and 7 October for which ozonesonde box temperatures were excessively warm during flight. The 19 August sonde data were adjusted by the correction factor 1.377, determined from Dobson spectrophotometer observations on moonlight. The correction factor used for the 7 October sounding was 1.092, the mean correction factor determined for soundings made during November and December when sonde box temperatures were also considerably higher than normal during flight.

6. DATA PRESENTATION

Tabular data for each ozone sounding are preceded by a plot of ozone partial pressures, air temperatures, humidity, and wind data (if available). In the wind plots wind speed is denoted by the length of the horizontal bars, and the wind direction by the bar centers.

Data presented at 1-min intervals include air pressure in millibars; geopotential altitude in meters; ozone partial pressure, ozone mixing ratio, ozone density, and total ozone, in nanobars, parts per million by volume, micrograms per cubic meter (gamma), and atm-cm, respectively; air temperature and dewpoint temperature in degrees Celsius; relative humidity in percent; potential temperature in kelvins; and wind speed and direction in meters per second and degrees, respectively. Preceding the data listing for each sounding are station surface meteorological data applicable to the time of ozonesonde release, relevant ozone and radiosonde instrument calibration data, and total ozone and the sonde data correction factor, if available (see Section 4).

Following the data listing, ozone partial pressures are given for standard Umkehr layers.

Finally, ozone partial pressures, air temperatures, and wind data are presented for mandatory pressure levels and significant ozone levels, coded in a WMO World Ozone Data Centre format [see "Ozone for the World" (Atmospheric Environment Service, Canada, 1981) or NOAA Technical Memorandum ERL ARL-149 (Komhyr, 1986)].

7. DATA ARCHIVING

ECC ozonesonde data, coded in the WODC format described above, are available from

World Ozone Data Centre
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario
Canada M3H5T4.

One-minute-interval data are available upon request from

NOAA Air Resources Laboratory
R/E/AR4
Boulder, Colorado 80303
Attn: Project Leader
Ozone Project.

8. ACKNOWLEDGMENTS

Appreciation for assistance with program logistics support and data processing is expressed to S.J. Oltmans of the NOAA Air Resources Laboratory; L. Landrum and R. Thorne of the Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, Colorado; and University of Colorado student assistants S. Coleman, L. Fanning, and M. Anderson. Logistics and general support at South Pole were provided by the National Science Foundation. The observational program was funded in part by the NASA Upper Atmosphere Research Program.

9. REFERENCES

Atmospheric Environment Service (Canada), 1981. Ozone data for the world. Guide Book No. 2, Toronto, Canada, 35 pp.

Chubachi, S., and R. Kajiwara, 1986. Recent measurements of Antarctica ozone depletion. Geophys. Res. Lett., 13, 1199-1201.

Farman, J.C., B.G. Gardiner, and J.D. Shanklin, 1985. Large losses of total ozone in Antarctica reveal seasonal ClO_x/NO_x interaction. Nature, 315, 207-210.

Hilsenrath, E., W. Attmannspacher, A. Bass, W. Evans, R. Hogemeyer, R. A. Barnes, W. Komhyr, K. Maursberger, J. Mentall, M. Proffitt, D. Robbins, S. Taylor, A. Torres, and E. Weinstock, 1986. Results from the balloon ozone intercomparison campaign (BOIC). J. Geophys. Res., 91, 13,137-13,152.

Komhyr, W.D., R.D. Grass, and R.K. Leonard, 1986. Total ozone decrease at South Pole, Antarctica, 1964-1985. Geophys. Res. Lett., 13, 1248-1251.

Komhyr, W.D., 1964. A carbon-iodine ozone sensor for atmospheric soundings. Proceedings of the Ozone Symposium, Albuquerque, NM. H. U. Dütsch (Ed.), World Meteorological Organization, Geneva, p. 26.

Komhyr, W.D., 1969. Electrochemical concentration cells for gas analysis. Ann. Geophys., 25, 203-210.

Komhyr, W.D., 1986. Operations handbook--Ozone measurements to 40-km altitude with model 4A electrochemical concentration cell (ECC) ozonesondes (used with 1680 MHz radiosondes. NOAA Technical Memorandum ERL ARL-149, Boulder, CO, 49 pp.

Komhyr, W.D., and R.D. Grass, 1968. Ozonesonde observations 1962-1966 (Volume 2). ESSA Technical Report ERL 80-APCL 3, Boulder, CO, 145 pp.

Komhyr, W.D., S.J. Oltmans, A.N. Chopra, and P.R. Franchois, 1985. Performance characteristics of high-altitude ECC ozonesondes. In Atmospheric Ozone, Proceedings of the Quadrennial Ozone Symposium held in Halkidiki, Greece, 3-7 September 1984. D. Reidel, Dordrecht, Holland, 499-503.

Regener, V.H., 1964. Measurement of stratospheric ozone with the chemiluminescent method. J. Geophys. Res., 69, 3795-3800.

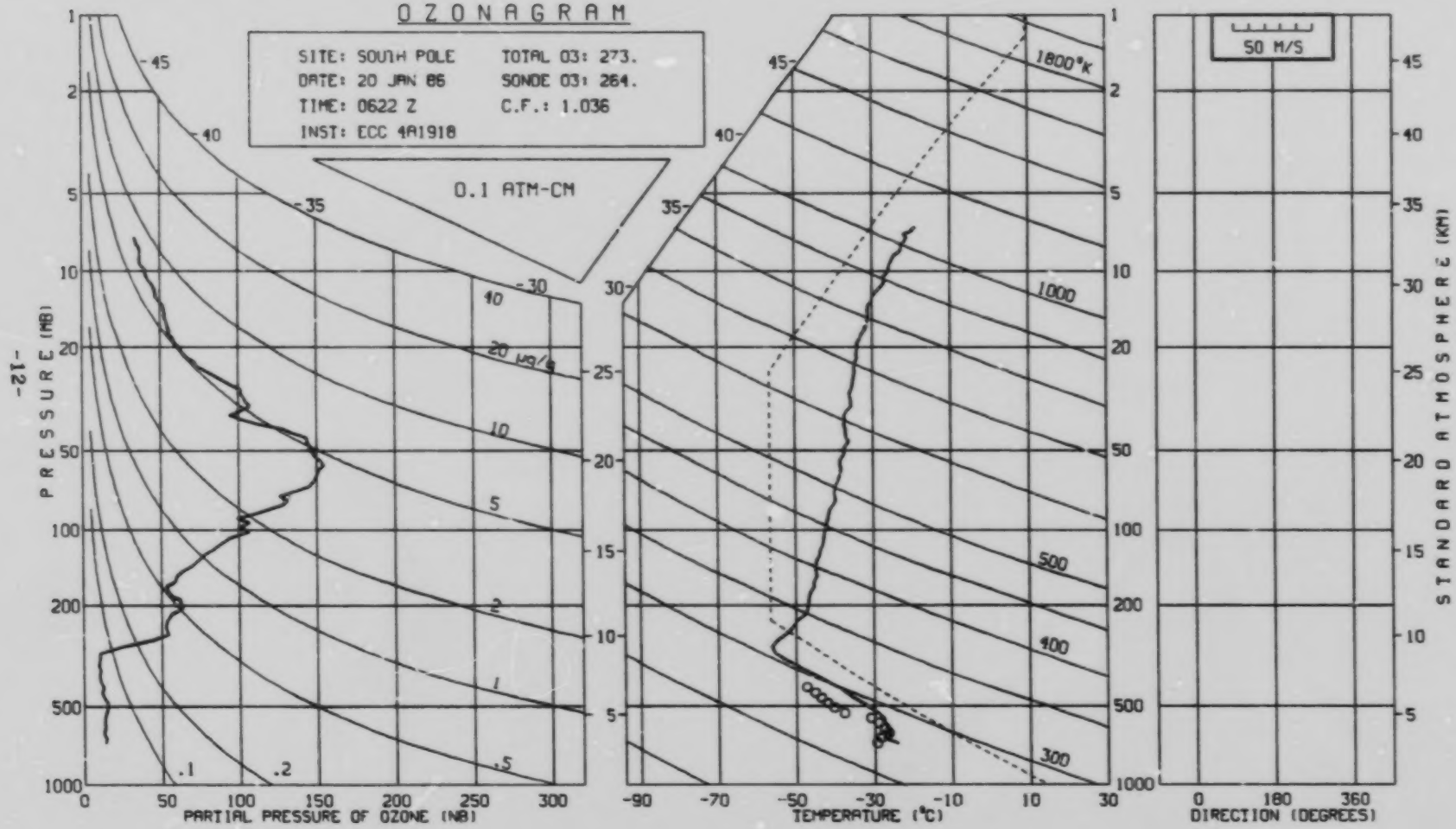
Stolarski, R.S., A. J. Krueger, M.R. Schoeberl, R.D. McPeters, P.A. Newman, and J.C. Alpert, 1986. Nimbus 7 SBUV/TOMS measurements of the springtime Antarctica ozone hole. Nature, 322, 808-811.

LIST OF SOUNDINGS

Station: South Pole, Antarctica
90.0°S, 24.8°W, elevation 2810 m.

Release Date	Time (Z)
20 Jan 86	1420
28 Jan 86	0555
21 Feb 86	0313
28 Feb 86	0327
10 Mar 86	0345
20 Mar 86	0305
10 Apr 86	0305
21 Apr 86	0243
15 May 86	0227
30 May 86	1403
31 May 86	0211
14 Jun 86	0435
20 Jun 86	1245
21 Jul 86	1220
29 Jul 86	0232
02 Aug 86	0226
05 Aug 86	0208
09 Aug 86	0215
19 Aug 86	0157
22 Aug 86	0153
01 Sep 86	0154
03 Sep 86	0216
12 Sep 86	0206
15 Sep 86	0209
19 Sep 86	0310
22 Sep 86	0233
26 Sep 86	0215
29 Sep 86	0158

Release Date	Time (Z)
02 Oct 86	0256
04 Oct 86	0159
06 Oct 86	0202
07 Oct 86	0209
09 Oct 86	0155
11 Oct 86	0232
13 Oct 86	0202
16 Oct 86	0156
18 Oct 86	0446
21 Oct 86	0148
25 Oct 86	0237
01 Nov 86	0220
03 Nov 86	0231
06 Nov 86	0327
11 Nov 86	0217
15 Nov 86	0242
20 Nov 86	0359
23 Nov 86	0430
01 Dec 86	0324
07 Dec 86	0439
14 Dec 86	0227
21 Dec 86	0249
28 Dec 86	0230



BEST COPY AVAILABLE

12

STATION: SOUTH POLE LAUNCH DATE: 20 JAN 86 622 Z ECC SONDE: 4A1918
SURFACE CONDITIONS: PRESSURE 691.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 75.2 ORD;
O3 ORD ZERO 30.8, BKGND 31.2, CAL 70.4; O3 BKGND .053 MICROAMP; FLOW RATE 28.0 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 273.; SONDE TOTAL O3 264.; C.F. 1.036

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	691.1	2800	13.7	.020	31.6	.0000	-24.2	-29.6	61.6	276.7		
1	660.0	3133	14.0	.021	32.9	.0005	-27.6	-28.5	93.2	276.5		
2	633.0	3434	12.5	.020	29.1	.0009	-25.5	-26.6	91.7	282.2		
3	606.0	3749	13.4	.022	31.3	.0014	-26.5	-27.7	91.2	284.6		
4	580.0	4065	13.2	.023	30.8	.0018	-27.6	-29.2	87.2	286.9		
5	555.0	4381	13.2	.024	30.9	.0023	-27.9	-31.2	73.9	290.2		
6	531.0	4697	14.1	.027	33.4	.0028	-29.3	-38.0	43.1	292.2		
7	507.0	5025	14.9	.029	35.7	.0033	-31.4	-40.6	40.4	293.5		
8	484.5	5345	15.1	.031	36.4	.0038	-33.5	-42.3	41.6	294.8		
9	462.0	5677	12.9	.028	31.5	.0044	-35.6	-43.9	43.1	296.2		
10	440.0	6015	11.3	.026	27.8	.0048	-37.5	-45.5	43.8	297.9		
11	418.0	6367	12.6	.030	31.3	.0053	-39.4	-47.6	41.9	299.9		
12	397.0	6717	10.7	.027	26.8	.0058	-42.3			300.6		
13	375.0	7100	9.9	.027	25.3	.0063	-44.9			302.1		
14	357.0	7426	10.6	.030	27.0	.0067	-47.9			302.3		
15	340.5	7736	9.6	.028	25.0	.0070	-50.3			303.2		
16	324.0	8058	10.2	.031	26.7	.0074	-53.2			303.5		
17	307.0	8403	10.2	.033	26.8	.0079	-55.6			304.9		
18	290.5	8754	24.1	.083	64.3	.0086	-56.4			308.6		
19	274.0	9126	44.3	.162	117.3	.0102	-55.0			315.9		
20	258.5	9500	54.6	.211	142.9	.0125	-52.7			324.4		
21	243.0	9900	52.7	.217	137.1	.0151	-51.1			332.7		
22	228.5	10301	53.6	.234	138.5	.0177	-49.8			340.5		
23	216.0	10670	56.7	.262	145.1	.0201	-47.8			349.2		
24	205.5	10999	63.8	.310	162.9	.0225	-47.2			355.1		
25	190.5	11500	62.0	.326	158.4	.0262	-46.9			363.3		
26	186.5	11640	57.4	.308	146.4	.0272	-46.9			365.6		
27	178.0	11949	55.2	.310	140.6	.0293	-46.5			371.2		
28	169.5	12274	53.1	.314	134.8	.0314	-45.6			377.8		
29	161.5	12596	58.7	.364	149.0	.0335	-45.6			383.1		
30	153.5	12935	59.9	.390	151.3	.0359	-44.8			390.1		
31	146.0	13269	63.1	.432	159.7	.0383	-45.1			395.3		
32	138.5	13621	69.7	.503	176.5	.0411	-45.1			401.3		
33	132.0	13942	73.5	.557	186.0	.0438	-44.9			407.1		
34	125.5	14280	77.4	.617	194.9	.0468	-44.1			414.5		
35	119.0	14636	83.3	.700	209.8	.0502	-43.9			421.1		
36	113.0	14983	88.6	.784	222.4	.0537	-43.2			428.7		
37	107.5	15319	94.3	.877	236.4	.0573	-43.0			435.4		
38	102.0	15673	106.1	1.040	265.9	.0614	-42.8			442.2		
39	98.0	15943	101.4	1.035	253.5	.0647	-42.3			448.4		
40	94.3	16203	106.2	1.126	265.5	.0679	-42.3			453.3		
41	90.7	16466	99.5	1.098	248.5	.0710	-41.9			459.2		
42	87.2	16732	110.1	1.263	274.7	.0743	-41.7			464.7		
43	83.9	16993	118.7	1.415	295.6	.0778	-41.4			470.4		
44	80.6	17265	128.0	1.588	317.8	.0817	-40.6			477.5		
45	77.6	17523	138.8	1.686	323.8	.0856	-39.9			484.1		
46	74.7	17783	126.9	1.699	314.4	.0894	-40.1			489.1		
47	71.6	18072	135.7	1.895	336.3	.0938	-40.2			494.8		
48	68.8	18344	144.5	2.100	358.1	.0982	-40.1			500.8		
49	66.2	18607	147.5	2.228	364.3	.1027	-39.4			507.8		

STATION: SOUTH POLE LAUNCH DATE: 20 JAN 86 622 Z ECC SONDE: 4A1918

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	63.7	18870	149.1	2.340	367.6	.1072	-39.0			514.3		
51	61.3	19133	150.6	2.457	371.0	.1117	-38.7			520.6		
52	59.1	19384	151.5	2.564	372.6	.1161	-38.3			526.9		
53	56.9	19644	154.4	2.714	380.4	.1206	-38.7			531.8		
54	54.8	19902	152.3	2.779	375.0	.1252	-38.7			537.5		
55	52.8	20157	148.5	2.813	364.7	.1296	-38.0			544.8		
56	51.1	20382	147.6	2.889	361.6	.1334	-37.5			551.2		
57	49.4	20615	145.1	2.938	356.0	.1373	-37.8			555.9		
58	47.7	20856	145.2	3.045	355.3	.1414	-37.1			563.1		
59	46.0	21107	144.0	3.130	351.3	.1455	-36.4			570.6		
60	44.3	21367	143.5	3.238	350.8	.1498	-37.1			575.1		
61	42.6	21637	134.8	3.163	329.9	.1541	-37.2			581.2		
62	41.0	21901	128.2	3.128	313.8	.1580	-37.2			587.6		
63	39.4	22175	113.3	2.876	277.8	.1618	-37 6			593.3		
64	37.8	22461	102.9	2.721	251.7	.1654	-37.4			601.1		
65	36.4	22721	95.1	2.612	233.1	.1683	-37.5			607.3		
66	35.0	22992	101.2	2.891	247.3	.1713	-37.0			615.5		
67	33.6	23275	107.8	3.209	262.4	.1747	-35.8			625.9		
68	32.3	23549	104.7	3.242	254.7	.1780	-35.8			633.6		
69	31.1	23812	103.5	3.327	251.8	.1811	-35.9			639.5		
70	29.9	24085	101.5	3.395	247.4	.1843	-36.2			646.0		
71	28.8	24345	101.1	3.510	245.7	.1873	-35.6			654.4		
72	27.7	24616	95.0	3.429	230.5	.1903	-35.4			662.5		
73	26.6	24898	90.2	3.392	218.9	.1933	-35.2			670.6		
74	25.5	25192	84.2	3.302	204.1	.1962	-35.0			679.5		
75	24.6	25442	79.3	3.225	192.1	.1985	-34.8			686.9		
76	23.7	25702	74.4	3.138	180.2	.2008	-35.0			693.9		
77	22.7	25002	72.3	3.185	175.1	.2033	-34.7			703.2		
78	21.9	26252	67.2	3.070	162.4	.2052	-34.2			712.1		
79	21.0	26545	64.6	3.078	156.3	.2074	-34.3			720.2		
80	20.1	26851	62.4	3.102	150.6	.2096	-34.2			729.7		
81	19.3	27135	59.4	3.075	143.4	.2116	-34.1			738.6		
82	18.5	27431	58.2	3.147	140.4	.2135	-33.5			749.3		
83	17.7	27741	55.5	3.137	133.4	.2155	-32.9			760.9		
84	17.0	28025	55.7	3.278	133.4	.2173	-32.2			771.8		
85	16.3	28322	54.5	3.343	130.4	.2191	-31.7			782.9		
86	15.7	28587	54.2	3.451	129.5	.2207	-31.5			791.7		
87	15.0	28909	52.8	3.522	126.3	.2226	-31.4			802.6		
88	14.5	29149	53.0	3.658	126.6	.2241	-31.3			810.8		
89	14.0	29397	52.5	3.751	125.3	.2255	-31.3			819.0		
90	13.5	29654	52.2	3.867	124.4	.2270	-31.2			828.0		
91	13.0	29921	49.7	3.825	118.3	.2285	-30.4			839.7		
92	12.5	30199	47.2	3.779	112.3	.2300	-30.2			849.6		
93	12.0	30490	47.3	3.945	112.1	.2316	-29.3			862.8		
94	11.5	30732	46.2	3.983	108.9	.2328	-28.4			874.5		
95	11.2	30984	45.1	4.023	106.0	.2341	-27.3			887.1		
96	10.8	31245	42.7	3.952	100.1	.2353	-27.1			897.4		
97	10.4	31516	41.3	3.974	97.0	.2366	-27.2			906.6		
98	10.1	31727	40.5	4.010	94.6	.2375	-26.2			918.1		
99	9.8	31960	40.1	4.099	93.7	.2386	-25.9			927.6		
100	9.5	32208	37.6	3.979	87.8	.2396	-25.8			937.2		
101	9.2	32434	36.9	4.026	86.1	.2405	-25.4			947.1		
102	8.9	32643	37.0	4.155	86.0	.2414	-25.0			956.5		
103	8.7	32833	37.1	4.277	86.1	.2421	-24.6			965.2		
104	8.5	33011	37.1	4.383	85.6	.2428	-23.5			976.1		

STATION: SOUTH POLE LAUNCH DATE: 20 JAN 86 622 Z ECC SONDE: 4A1918

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	8.3	33195	37.2	4.507	85.8	.2436	-22.8			985.8		
106	8.1	33365	36.8	4.562	84.8	.2443	-22.7			99. 9		
107	7.9	33530	35.0	4.443	80.7	.2449	-22.6			999.9		
108	7.7	33709	34.7	4.512	79.8	.2456	-21.9			1009.5		
109	7.5	33854	34.2	4.533	78.6	.2461	-21.6			1016.3		
110	7.4	33992	33.7	4.549	77.3	.2466	-21.4			1022.8		
111	7.3	34092	0.0	0.000	0.0	.2468	-21.8			1025.2		
112	7.2	34183	0.0	0.000	0.0	.2468	-21.9			1028.3		
113	7.1	34265	0.0	0.000	0.0	.2468	-21.0			1035.4		
114	7.1	34337	0.0	0.000	0.0	.2468	-20.4			1040.5		
115	7.0	34400	0.0	0.000	0.0	.2468	-20.0			1044.7		
116	6.9	34485	0.0	0.000	0.0	.2468	-19.8			1049.3		
117	6.9	34549	0.0	0.000	0.0	.2468	-19.5			1053.0		
118	6.8	34614	0.0	0.000	0.0	.2468	-19.1			1057.4		

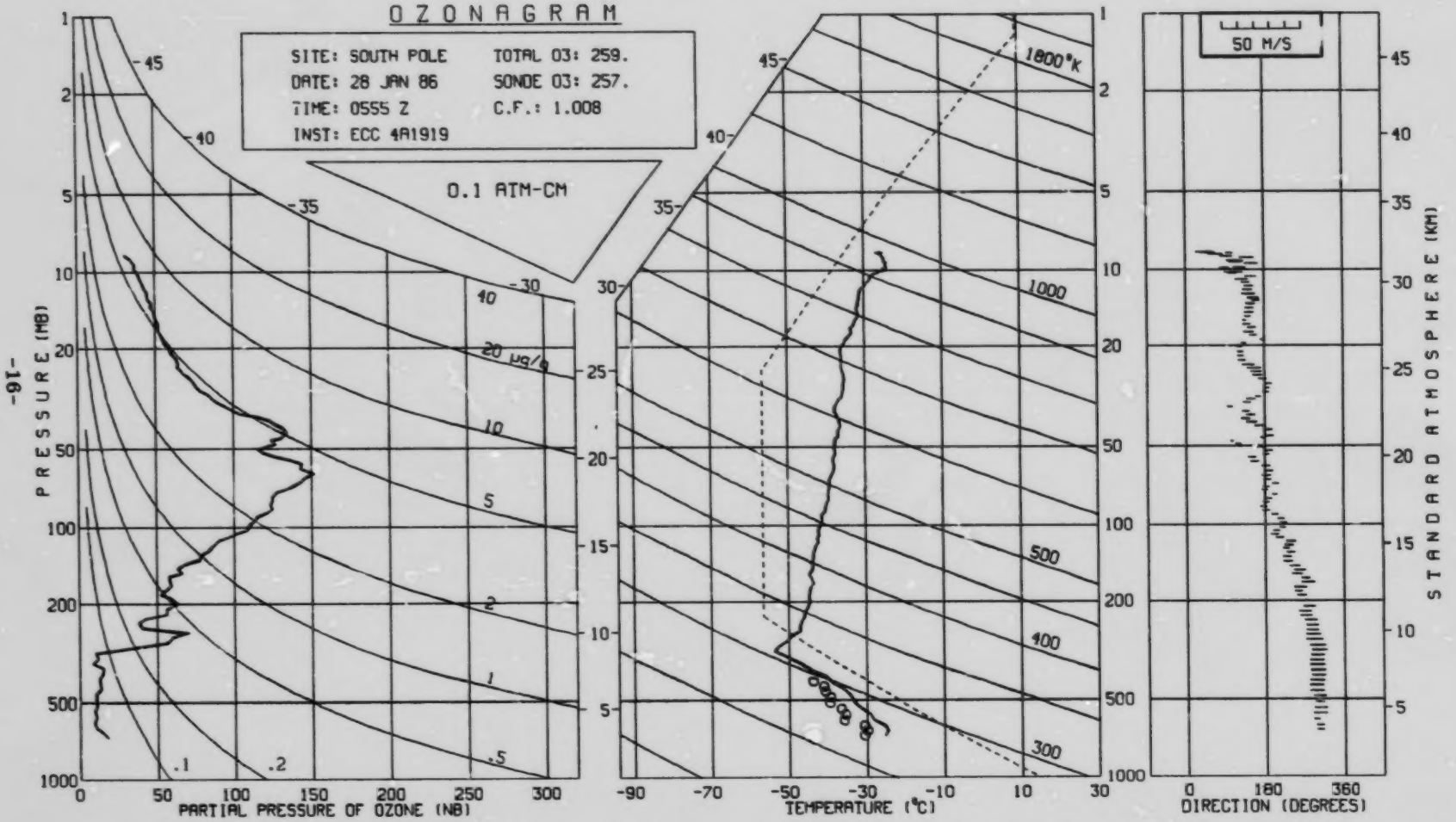
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.6	19.0	60.7	114.0	130.3	73.4	44.2	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS		
1110120018606	00273 991.036	ECC	TOTAL O3 FROM SONDE DATA 264	
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF
1110220018606	691 14-24	500 15-32	300 16-56	200 63-47
1110320018606	150 61-45	100104-43	70141-40	50146-38
1110420018606	30102-36	20.0 62-34	10.0 40-26	7.0 0-20
1110520018606	630 14-28	633 13-26	555 13-28	341 10-50
1110620018606	259 55-53	170 53-46	91100-42	81128-41
1110720018606	75127-40	57154-39	44143-37	36 95-38
1110820018606	34108-36	13.5 52-31	7.4 34-21	7.3 0-22
1110920018606	6.8 0-19			



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 28 JAN 86 555 Z ECC SONDE: 4A1919
SURFACE CONDITIONS: PRESSURE 687.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 75.7 ORD;
O3 ORD ZERO 30.8, BKGND 31.0, CAL 72.4; O3 BKGND .025 MICROAMP; FLOW RATE 28.0 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 259.; SONDE TOTAL O3 257.; C.F. 1.008

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	687.1	2800	17.7	.026	41.4	.0000	-25.5	-30.9	61.2	275.7		
1	656.5	3131	14.8	.023	34.6	.0006	-24.7	-30.1	61.5	280.2	4.2	303.
2	628.3	3450	10.6	.017	24.6	.0010	-25.5	-30.9	61.4	282.8	4.2	303.
3	598.0	3806	9.3	.016	21.9	.0014	-28.3	-36.1	47.8	283.7	3.5	295.
4	568.0	4174	10.6	.019	25.1	.0018	-29.3	-35.8	53.9	286.6	8.4	304.
5	539.5	4540	9.6	.018	23.0	.0022	-31.5	-36.9	60.1	288.2	7.9	305.
6	511.0	4922	10.9	.021	26.2	.0027	-33.4	-39.8	53.5	290.5	5.1	302.
7	487.0	5259	10.5	.022	25.2	.0031	-34.2	-39.7	58.1	293.5	7.2	302.
8	463.0	5611	10.5	.023	25.5	.0035	-35.4	-41.0	57.5	296.3	8.5	296.
9	441.0	5948	13.5	.031	33.2	.0039	-37.1	-41.4	65.5	298.3	8.9	295.
10	420.0	6283	13.1	.031	32.4	.0045	-39.5	-44.1	63.0	299.3	9.0	297.
11	400.0	6615	12.6	.032	31.5	.0050	-40.9			301.8	8.7	299.
12	380.0	6961	14.8	.039	37.2	.0055	-43.9			302.2	9.0	299.
13	360.0	7322	14.9	.041	37.8	.0061	-46.3			303.7	9.3	297.
14	344.0	7622	8.4	.024	21.6	.0066	-48.4			304.9	8.7	297.
15	327.5	7943	11.9	.036	31.1	.0070	-51.2			305.3	8.6	298.
16	312.5	8245	10.6	.034	28.0	.0074	-54.0			305.6	9.1	302.
17	299.0	8529	32.5	.109	85.0	.0081	-52.9			311.0	9.8	299.
18	284.0	8862	56.8	.200	147.2	.0099	-50.6			318.9	10.5	291.
19	271.0	9168	60.0	.221	154.8	.0121	-49.4			324.9	9.0	289.
20	260.0	9440	69.1	.266	176.6	.0142	-47.3			331.8	7.2	287.
21	249.0	9725	40.5	.163	103.6	.0161	-47.3			335.9	7.2	287.
22	238.0	10024	38.5	.162	98.4	.0175	-46.9			341.0	7.5	283.
23	229.0	10279	42.4	.185	107.9	.0187	-46.2			345.8	7.5	272.
24	220.0	10545	56.3	.256	143.1	.0203	-46.1			350.0	7.5	270.
25	210.0	10854	56.4	.268	142.9	.0223	-45.3			355.8	7.6	280.
26	200.0	11179	63.5	.318	160.5	.0246	-44.8			361.7	8.0	273.
27	190.6	11500	58.4	.306	147.6	.0270	-44.9			366.5	5.9	262.
28	184.1	11732	52.7	.286	133.4	.0285	-44.8			370.4	4.4	255.
29	177.0	11995	55.9	.316	141.1	.0302	-44.5			375.0	7.4	260.
30	170.0	12265	59.4	.349	149.3	.0320	-43.7			380.8	8.0	278.
31	164.0	12506	58.6	.357	147.7	.0337	-44.1			384.0	5.2	272.
32	158.3	12742	58.3	.368	147.3	.0353	-44.9			386.5	6.0	252.
33	152.8	12978	66.4	.435	167.5	.0370	-44.2			391.6	7.3	258.
34	147.0	13237	63.7	.433	160.6	.0390	-43.9			396.4	6.6	247.
35	141.4	13497	67.5	.478	170.3	.0410	-44.1			400.6	5.3	232.
36	136.0	13758	77.7	.572	195.5	.0433	-43.7			405.8	5.3	230.
37	130.4	14040	78.3	.601	197.0	.0459	-43.7			410.7	5.2	238.
38	125.9	14276	83.1	.660	208.6	.0481	-43.4			415.4	3.9	227.
39	121.8	14498	85.2	.699	213.9	.0503	-43.2			419.6	5.1	235.
40	117.7	14728	87.2	.741	218.5	.0526	-42.5			425.0	6.2	239.
41	113.5	14973	90.2	.795	226.1	.0552	-42.8			428.9	5.1	213.
42	109.6	15209	96.8	.883	242.0	.0578	-42.3			434.3	4.8	201.
43	106.0	15434	101.9	.962	255.2	.0604	-42.5			437.9	4.2	206.
44	102.5	15660	108.7	1.060	271.8	.0632	-42.3			442.7	3.7	220.
45	98.3	15943	109.8	1.117	273.8	.0668	-41.7			449.0	4.0	221.
46	95.0	16174	112.8	1.188	281.2	.0698	-41.6			453.7	3.7	216.
47	91.6	16421	114.7	1.253	286.0	.0730	-41.6			458.5	3.9	202.
48	88.4	16662	120.9	1.367	300.1	.0763	-40.6			465.1	4.5	182.
49	85.3	16905	124.8	1.463	309.7	.0798	-40.5			470.1	3.8	177.

STATION: SOUTH POLE LAUNCH DATE: 28 JAN 86 555 Z ECC SONDE: 4A1919

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	82.2	17157	123.5	1.502	306.1	.0834	-40.2			475.7	3.3	183.
51	79.3	17402	124.7	1.573	308.5	.0869	-39.7			481.7	3.2	189.
52	76.5	17647	124.7	1.630	308.5	.0905	-39.8			486.4	3.0	203.
53	73.7	17901	127.5	1.730	315.3	.0942	-39.7			491.9	3.6	179.
54	71.6	18098	134.0	1.871	331.1	.0972	-39.5			496.2	3.9	183.
55	69.4	18311	138.6	1.997	342.6	.1005	-39.5			500.7	3.9	204.
56	67.1	18541	142.9	2.129	353.1	.1043	-39.5			505.5	4.5	186.
57	64.8	18779	145.9	2.251	359.8	.1082	-39.1			511.5	5.1	183.
58	62.2	19060	151.1	2.430	371.6	.1130	-38.5			519.0	5.4	189.
59	59.6	19353	143.0	2.399	351.3	.1180	-38.2			526.0	5.2	182.
60	57.0	19659	143.6	2.519	353.1	.1230	-38.5			532.1	5.3	157.
61	55.2	19879	135.4	2.453	333.1	.1266	-38.5			537.0	4.9	151.
62	53.7	20068	126.9	2.364	311.6	.1294	-37.9			542.5	3.4	183.
63	52.1	20276	119.4	2.291	292.9	.1324	-37.9			547.2	5.5	188.
64	50.5	20490	115.9	2.296	284.8	.1353	-38.2			551.5	5.5	170.
65	49.1	20683	121.4	2.472	298.0	.1379	-38.0			556.2	2.6	119.
66	47.9	20853	126.7	2.646	311.2	.1403	-38.0			560.2	1.5	105.
67	46.4	21072	124.3	2.679	305.0	.1435	-37.8			565.9	2.2	175.
68	45.6	21192	130.5	2.861	319.1	.1452	-37.1			570.4	5.1	190.
69	43.0	21597	134.2	3.121	328.2	.1513	-37.1			580.0	6.1	187.
70	41.3	21876	131.9	3.193	321.8	.1556	-36.6			588.1	6.5	169.
71	39.9	22114	127.0	3.184	310.3	.1591	-36.8			593.2	6.2	150.
72	38.6	22343	123.6	3.202	302.3	.1624	-37.1			598.2	5.4	136.
73	37.2	22598	115.7	3.111	283.4	.1659	-37.4			603.9	5.5	148.
74	36.0	22824	104.2	2.896	256.1	.1687	-38.0			607.8	4.5	137.
75	34.5	23117	98.5	2.855	242.0	.1721	-38.0			615.2	3.2	100.
76	33.2	23381	93.4	2.812	228.7	.1750	-37.5			623.4	4.7	139.
77	32.1	23613	88.9	2.770	217.3	.1774	-37.0			630.9	5.8	149.
78	31.3	23787	86.6	2.767	210.9	.1792	-36.2			637.6	3.3	165.
79	30.2	24035	84.1	2.784	204.6	.1816	-35.9			644.9	3.2	183.
80	29.1	24292	78.3	2.692	190.5	.1840	-35.8			652.1	2.9	186.
81	28.0	24559	76.0	2.715	184.8	.1863	-35.8			659.4	3.8	189.
82	26.7	24889	73.7	2.760	179.1	.1891	-35.5			669.1	4.5	175.
83	25.9	25100	71.4	2.756	173.5	.1909	-35.6			674.6	5.4	163.
84	25.1	25318	68.0	2.707	165.3	.1926	-35.8			680.3	6.8	161.
85	24.3	25543	66.6	2.742	162.3	.1943	-36.2			685.5	8.5	156.
86	23.6	25745	64.2	2.721	156.4	.1958	-36.2			691.2	7.8	143.
87	22.7	26014	64.7	2.851	157.7	.1978	-36.2			698.9	4.6	128.
88	21.8	26294	63.7	2.923	155.3	.1999	-36.2			707.0	3.4	125.
89	21.0	26553	60.6	2.885	147.8	.2017	-36.4			713.8	3.3	125.
90	20.1	26856	59.5	2.959	145.0	.2038	-36.4			722.8	2.7	123.
91	19.5	27066	57.2	2.931	138.8	.2052	-35.5			732.0	2.7	133.
92	18.9	27283	55.5	2.939	134.7	.2066	-35.2			739.4	2.4	175.
93	18.2	27546	54.4	2.991	131.6	.2082	-34.2			750.7	4.5	155.
94	17.7	27741	53.5	3.024	129.0	.2094	-33.5			758.8	6.3	144.
95	17.0	28024	52.2	3.072	125.9	.2111	-33.7			767.2	5.3	151.
96	16.5	28233	51.8	3.141	124.5	.2123	-32.9			776.3	4.6	139.
97	16.0	28449	51.8	3.239	124.3	.2135	-32.6			784.0	2.2	135.
98	15.4	28718	50.5	3.280	120.9	.2151	-31.9			794.8	3.5	142.
99	14.9	28951	49.7	3.336	119.0	.2164	-31.9			802.3	5.4	145.
100	14.3	29241	49.4	3.455	118.4	.2180	-32.1			811.4	5.5	146.
101	13.7	29543	46.9	3.422	112.2	.2196	-31.8			822.3	5.5	149.
102	13.3	29752	47.8	3.593	114.1	.2207	-31.7			829.7	4.7	161.
103	13.0	29913	45.9	3.529	109.6	.2216	-31.5			835.6	7.3	154.
104	12.5	30190	45.0	3.597	107.5	.2230	-31.5			845.0	8.3	144.

STATION: SOUTH POLE LAUNCH DATE: 28 JAN 86 555 Z ECC SONDE: 4A1919

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.0	30479	45.1	3.755	107.6	.2244	-31.2			856.3	5.8	141.
106	11.6	30719	43.3	3.728	102.8	.2256	-30.2			867.9	5.9	145.
107	11.2	30969	42.3	3.781	100.5	.2268	-29.6			879.1	5.3	137.
108	10.9	31163	41.6	3.820	98.4	.2277	-28.8			888.8	8.0	129.
109	10.6	31362	40.4	3.814	95.4	.2286	-28.5			896.9	7.2	150.
110	10.3	31568	39.8	3.866	93.8	.2295	-27.6			907.6	5.0	107.
111	10.2	31638	39.3	3.855	92.1	.2298	-26.7			913.6	11.7	111.
112	10.0	31781	38.9	3.892	90.8	.2304	-26.0			921.2	7.2	136.
113	10.0	31781	38.4	3.841	89.4	.2304	-25.0			925.2	2.7	128.
114	9.9	31890	37.9	3.848	88.3	.2309	-25.2			928.2	5.6	90.
115	9.8	31927	37.0	3.775	85.9	.2310	-24.4			932.5	7.4	124.
116	9.5	32176	37.0	3.907	86.0	.2320	-24.6			941.2	8.2	151.
117	9.3	32307	37.0	3.978	85.8	.2326	-24.4			946.6	8.2	116.
118	9.2	32369	36.1	3.915	83.9	.2328	-25.0			946.9	10.1	113.
119	9.0	32568	34.8	3.878	80.9	.2336	-25.0			954.3	8.8	141.
120	8.8	32690	33.4	3.783	77.7	.2340	-25.4			957.4	7.7	93.
121	8.7	32806	31.7	3.647	73.9	.2344	-25.8			960.3	8.9	69.
122	8.6	32873	30.6	3.564	71.6	.2347	-26.2			961.3	4.3	101.
123	8.6	32898	0.0	0.000	0.0	.2347	-26.3			961.7	9.3	50.
124	8.6	32914	0.0	0.000	0.0	.2347	-26.5			961.3	11.2	43.
125	8.5	32922	0.0	0.000	0.0	.2347	-26.2			963.2	7.0	38.
126	8.5	32930	0.0	0.000	0.0	.2347	-26.4			962.5	7.0	38.

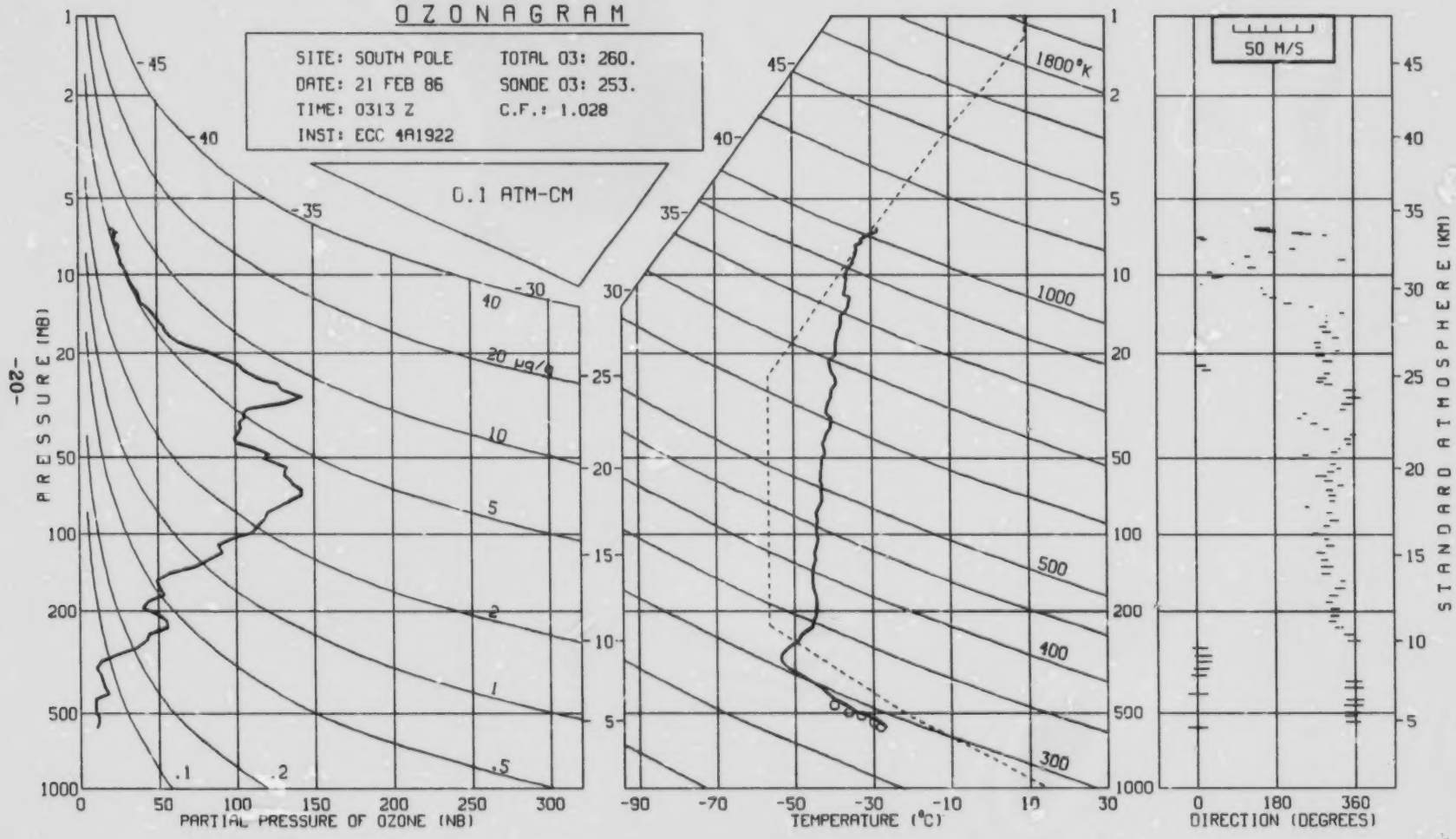
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
11.4	23.9	59.7	116.8	122.1	64.3	42.7	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110128018606   00259   991.008   ECC     TOTAL O3 FROM SONDE DATA  257
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110228018606    687 18-26        500 11-34302  6 300 31-53299 10 200 64-45273  8
1110328018606    150 65-44253  7 100109-42221  4  70137-40198  4  50118-38152  4
1110428018606     30 83-36184  320.0 59-36125  310.0 39-26136  7 628 11-26303  4
1110528018606    400 13-41299  9 313 11-54302  9 284 57-51291 11 260 69-47287  7
1110628018606    249 41-47287  7 238 39-47283  8 220 56-46270  8 184 53-45255  4
1110728018606     62151-39189  5  43134-37187  6  39124-37136  5  35 98-38100  3
1110828018606   15.4 51-32142  412.0 45-31141  6 9.3 37-24116  8 8.6 31-26101  4
1110928018606    8.6  0-26 50  9 8.5  0-26 38  7
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 21 FEB 86 313 Z ECC SONDE: 4A1922
SURFACE CONDITIONS: PRESSURE 693.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.3 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 75.3 ORD;
O3 ORD ZERO 34.0, BKGND 34.1, CAL 72.5; O3 BKGND .014 MICROAMP; FLOW RATE 27.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 260.; SONDE TOTAL O3 253.; C.F. 1.028

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	572.0	4183	10.2	.018	23.8	.0002	-26.9	-28.4	88.5	288.9	12.5	0.
1	544.0	4543	11.7	.022	27.5	.0006	-28.6	-30.2	87.7	291.0	9.3	354.
2	514.0	4947	11.6	.023	27.9	.0012	-31.5	-33.4	84.5	292.3	7.6	350.
3	498.5	5162	9.8	.020	23.5	.0014	-34.3	-36.6	80.5	291.5	9.3	354.
4	466.0	5630	9.8	.021	23.8	.0019	-37.3	-40.3	74.9	293.3	12.2	356.
5	442.5	5985	9.8	.022	24.3	.0023	-40.3			293.9	11.6	359.
6	420.0	6339	18.2	.043	45.3	.0029	-41.8			296.4	12.5	1.
7	398.0	6702	15.3	.038	38.5	.0036	-43.5			298.8	11.8	358.
8	376.0	7082	14.0	.037	35.6	.0043	-46.3			300.0	10.2	357.
9	354.0	7480	13.0	.037	33.5	.0049	-49.1			301.4	10.0	3.
10	335.0	7839	10.2	.030	26.6	.0054	-51.7			302.7	10.0	9.
11	315.0	8236	13.5	.043	35.5	.0060	-53.7			305.2	10.0	15.
12	298.0	8592	23.0	.077	60.6	.0068	-53.7			310.1	10.9	13.
13	280.0	8994	36.3	.130	94.6	.0083	-52.0			318.2	10.0	6.
14	263.0	9402	42.7	.162	110.1	.0102	-49.3			327.9	7.7	358.
15	248.0	9787	44.2	.178	113.5	.0122	-48.5			334.6	5.9	346.
16	233.0	10200	55.9	.240	142.1	.0147	-45.8			344.8	5.1	325.
17	220.0	10582	55.4	.252	140.6	.0172	-45.5			350.9	4.9	309.
18	209.0	10924	51.1	.244	129.3	.0194	-44.8			357.2	5.4	315.
19	194.8	11394	40.2	.206	101.5	.0219	-44.6			364.7	5.3	316.
20	183.2	11805	43.6	.238	109.9	.0239	-44.5			371.4	4.5	302.
21	171.9	12231	53.9	.313	136.1	.0264	-44.8			377.7	6.1	313.
22	161.1	12664	51.0	.316	129.2	.0291	-45.5			383.6	6.3	327.
23	151.1	13091	49.2	.326	125.0	.0316	-45.6			390.4	2.8	333.
24	141.9	13509	57.5	.405	145.8	.0342	-45.6			397.5	5.1	295.
25	133.3	13925	74.5	.559	188.8	.0375	-45.5			404.9	7.6	298.
26	125.3	14338	83.4	.665	210.8	.0414	-44.8			413.4	4.1	292.
27	117.8	14750	91.2	.774	230.8	.0456	-45.1			420.3	5.2	283.
28	110.4	15183	88.4	.801	223.3	.0502	-44.5			429.2	4.9	305.
29	104.1	15576	97.8	.939	246.3	.0545	-44.1			437.3	2.7	297.
30	99.2	15899	110.1	1.110	278.1	.0585	-44.5			442.5	3.1	272.
31	93.0	16331	114.2	1.228	288.2	.0642	-44.5			450.7	3.7	297.
32	88.9	16633	117.7	1.324	297.0	.0683	-44.3			456.9	5.4	315.
33	83.2	17076	120.0	1.442	303.0	.0745	-44.6			465.0	3.5	304.
34	78.9	17431	127.7	1.618	321.5	.0797	-43.9			473.6	2.1	254.
35	74.6	17807	134.9	1.808	339.4	.0855	-43.1			483.0	3.6	310.
36	70.7	18168	141.7	2.004	355.6	.0914	-43.1			490.5	4.9	310.
37	67.2	18509	141.8	2.109	356.1	.0970	-43.4			497.0	4.1	304.
38	64.2	18816	136.7	2.130	343.0	.1021	-43.1			504.2	3.9	330.
39	61.4	19116	134.8	2.195	338.9	.1068	-43.5			509.7	5.2	302.
40	58.8	19407	131.1	2.229	329.3	.1114	-43.4			516.4	7.0	285.
41	56.4	19687	131.4	2.329	330.2	.1157	-43.4			522.5	4.3	307.
42	54.6	19905	132.4	2.425	332.5	.1191	-43.2			527.7	2.9	326.
43	52.5	20169	125.8	2.397	315.7	.1231	-43.1			534.0	3.4	313.
44	50.2	20470	117.4	2.338	294.6	.1274	-43.1			540.9	2.8	221.
45	48.6	20688	121.0	2.489	302.7	.1304	-42.4			547.6	3.2	250.
46	47.4	20856	117.1	2.470	292.9	.1328	-42.4			551.5	4.1	315.
47	45.9	21073	110.8	2.414	277.4	.1357	-42.5			556.2	1.1	328.
48	44.1	21342	100.3	2.275	251.5	.1390	-42.9			561.6	2.4	349.
49	42.4	21607	99.3	2.342	248.1	.1421	-42.2			569.7	3.8	346.

STATION: SOUTH POLE LAUNCH DATE: 21 FEB 86 313 Z ECC SONDE: 4A1922

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	40.8	21867	101.2	2.479	252.6	.1451	-42.0			576.7	3.5	359.
51	38.9	22190	103.4	2.658	257.2	.1490	-40.9			587.4	3.7	297.
52	37.0	22530	102.4	2.767	254.2	.1530	-40.7			596.2	4.3	270.
53	35.3	22850	106.1	3.005	263.4	.1569	-40.7			604.2	2.3	236.
54	34.0	23104	104.9	3.084	261.7	.1600	-42.0			607.5	2.2	249.
55	32.8	23347	108.0	3.294	269.6	.1630	-41.8			614.1	3.5	336.
56	31.2	23686	131.9	4.227	328.5	.1678	-41.4			624.1	6.1	344.
57	29.6	24043	141.9	4.792	352.2	.1735	-40.6			635.8	8.9	360.
58	27.9	24446	129.5	4.642	321.4	.1798	-40.5			647.0	8.1	351.
59	26.4	24823	127.0	4.809	313.4	.1854	-39.4			660.4	5.3	303.
60	25.8	24980	119.2	4.622	294.6	.1876	-39.4			664.7	4.4	283.
61	25.0	25195	113.3	4.531	279.9	.1905	-39.5			670.4	5.1	288.
62	24.1	25445	108.7	4.508	269.3	.1937	-40.3			675.1	3.7	300.
63	23.3	25675	104.5	4.487	259.6	.1966	-40.6			680.8	5.4	24.
64	22.3	25973	102.1	4.577	253.7	.2001	-40.9			688.6	6.5	12.
65	21.4	26253	95.8	4.477	238.5	.2034	-41.1			695.9	6.1	301.
66	20.3	26612	86.7	4.269	214.0	.2072	-39.4			711.9	5.6	284.
67	19.4	26922	79.7	4.106	196.6	.2101	-39.4			721.2	2.7	323.
68	18.8	27137	71.2	3.789	175.9	.2120	-39.4			727.7	3.2	280.
69	18.0	27434	63.5	3.529	156.9	.2143	-39.4			736.8	4.1	278.
70	17.2	27745	58.7	3.413	144.7	.2165	-39.1			747.3	4.2	320.
71	16.4	28071	55.2	3.366	136.0	.2186	-38.8			758.4	5.3	299.
72	15.7	28370	54.1	3.444	132.7	.2205	-38.1			770.1	4.6	290.
73	15.0	28684	50.8	3.385	124.7	.2224	-38.0			780.7	1.7	299.
74	14.2	29061	47.8	3.366	117.4	.2245	-38.0			793.0	.6	299.
75	13.9	29208	46.2	3.320	112.9	.2253	-36.9			801.5	2.3	334.
76	13.2	29566	42.9	3.247	104.3	.2271	-36.1			816.2	3.0	264.
77	12.8	29779	39.6	3.092	96.3	.2282	-36.0			823.8	5.2	210.
78	12.2	30112	38.8	3.177	94.3	.2296	-35.6			836.6	4.1	177.
79	11.8	30343	37.9	3.215	92.9	.2306	-37.3			838.4	2.6	158.
80	11.2	30703	35.4	3.157	86.5	.2322	-36.8			853.0	1.2	151.
81	10.8	30954	33.7	3.122	82.2	.2331	-36.7			862.4	1.1	13.
82	10.2	31350	31.6	3.094	77.0	.2346	-36.5			877.1	4.0	45.
83	10.1	31418	30.6	3.033	74.8	.2349	-37.1			877.5	4.7	53.
84	9.8	31662	30.3	3.110	74.0	.2357	-36.5			888.4	2.8	32.
85	9.4	31930	28.7	3.058	69.7	.2366	-36.0			900.4	4.9	128.
86	9.1	32171	26.4	2.916	64.0	.2374	-34.9			913.4	1.3	85.
87	8.8	32398	26.5	3.024	64.2	.2380	-34.8			922.5	4.3	334.
88	8.5	32633	25.7	3.031	62.0	.2387	-34.3			933.4	3.2	118.
89	8.2	32859	24.8	3.017	59.8	.2394	-34.0			943.2	4.3	175.
90	8.0	33084	25.3	3.181	61.1	.2400	-33.9			952.4	3.7	221.
91	7.7	33307	25.7	3.337	62.1	.2407	-34.1			960.1	.6	156.
92	7.5	33519	23.0	3.082	55.2	.2412	-32.8			973.8	.4	72.
93	7.3	33719	22.1	3.044	53.0	.2417	-32.8			981.8	3.4	20.
94	7.1	33866	23.0	3.239	55.1	.2421	-31.9			991.4	3.8	11.
95	7.0	33996	23.0	3.299	55.1	.2425	-31.9			996.7	2.6	295.
96	6.9	34119	22.6	3.297	53.6	.2428	-29.6			1010.9	7.4	251.
97	6.8	34181	24.4	3.583	57.9	.2429	-29.6			1013.5	6.5	232.
98	6.7	34276	22.6	3.370	53.4	.2432	-28.6			1021.7	5.2	174.
99	6.6	34351	22.1	3.328	52.3	.2434	-28.6			1024.8	8.3	162.
100	6.6	34416	21.7	3.296	51.1	.2435	-28.5			1028.0	9.6	153.
101	6.5	34503	19.8	3.052	46.8	.2437	-28.6			1031.1	9.6	153.

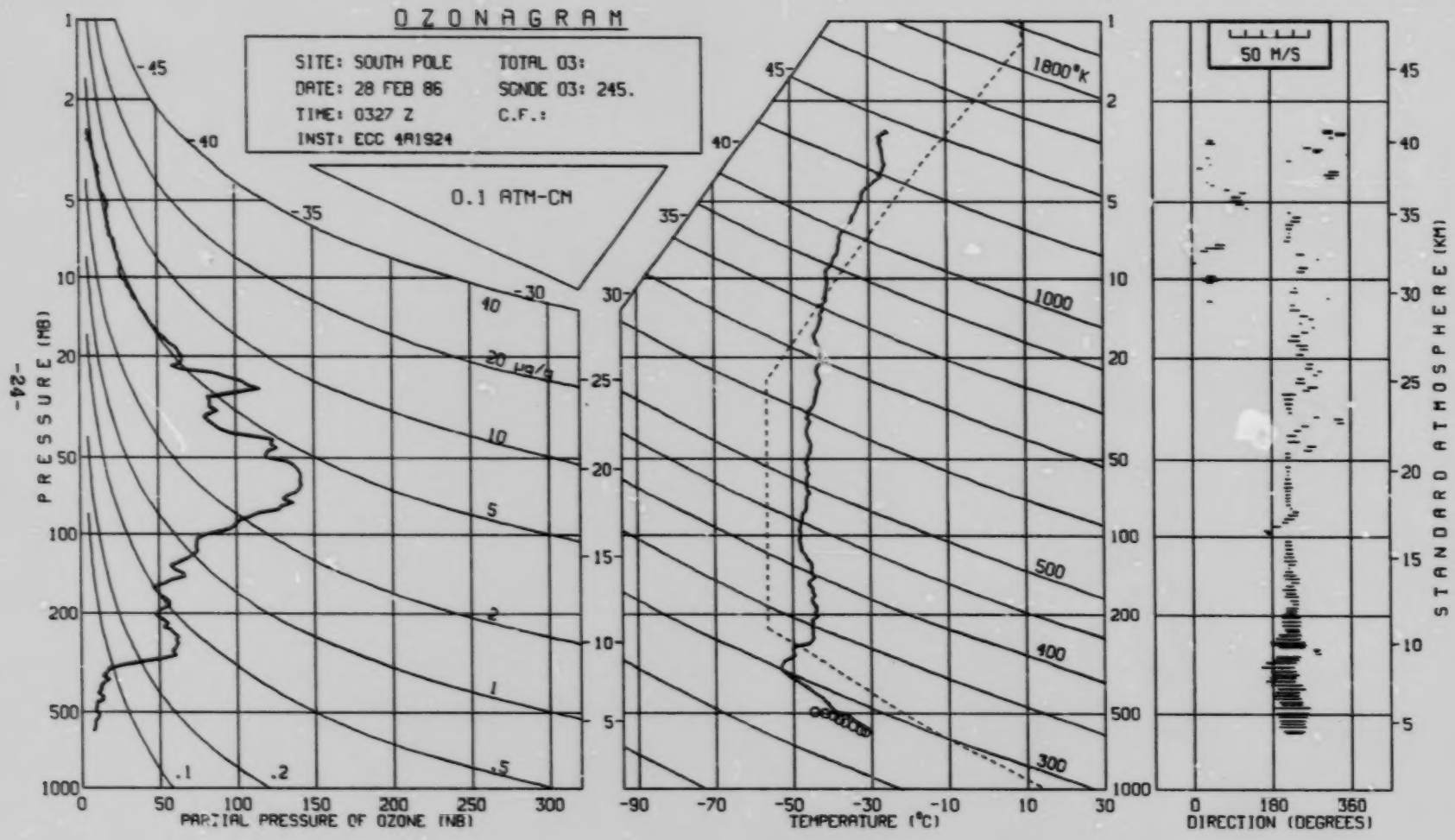
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.2	19.3	54.1	115.9	114.6	96.9	35.8	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110121028603   00260   991.028   ECC     TOTAL O3 FROM SONDE DATA  253
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110221028603    572 10-27  0 13 500 10-34 -6  9 300 22-54 13 11 200 44-45316  5
1110321028603    150 50-46329  3 100108-44276  3  70142-43309  5  50118-43225  3
1110421028603     30139-41 -4  820.0 84-39297  510.0 31-37 47  4 7.0 23-32251  3
1110521028603    420 18-42  1 13 335 10-52  9 10 233 56-46325  5 183 44-45302  5
1110621028603    172 54-45313  6 125 83-45292  4 110 88-45305  5  55132-43326  3
1110721028603     49121-42250  3  44100-43349  2  34105-42249  2  33108-42336  4
1110821028603     31132-41344  617.2 59-39320  412.2 39-36177  4 6.5 20-29153 10
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 28 FEB 86 327 Z ECC SONDE: 4A1924
SURFACE CONDITIONS: PRESSURE 699.3 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.7 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 74.0 ORD;
O3 ORD ZERO 32.0, BKGND 32.1, CAL 71.9; O3 BKGND .013 MICROAMP; FLOW RATE 27.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 : SONDE TOTAL O3 245.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	590.0	4013	6.8	.012	16.2	.0000	-30.0	-31.9	85.3	282.7	10.7	228.
1	583.5	4091	8.2	.014	19.4	.0001	-30.7	-33.1	80.9	282.8	12.9	228.
2	559.5	4388	8.6	.015	20.6	.0004	-32.3	-35.1	76.7	284.4	17.4	224.
3	543.0	4598	8.6	.016	20.7	.0006	-33.8	-37.2	73.2	284.9	15.3	224.
4	529.0	4780	10.3	.019	25.1	.0008	-35.0	-38.6	71.1	285.7	16.9	224.
5	512.0	5007	11.2	.022	27.3	.0011	-36.0	-40.1	66.8	287.2	18.3	225.
6	500.0	5171	10.3	.021	25.3	.0013	-37.5	-42.3	62.3	287.2	13.6	226.
7	495.5	5233	9.0	.018	22.2	.0013	-39.4	-44.9	56.8	285.7	20.3	225.
8	472.0	5564	9.5	.020	23.6	.0017	-40.9			287.8	22.7	224.
9	460.0	5739	9.9	.022	24.6	.0019	-41.3			289.4	13.3	223.
10	449.0	5903	13.3	.030	33.2	.0021	-42.1			290.4	14.9	221.
11	435.0	6117	13.7	.031	34.3	.0024	-42.8			292.2	16.5	214.
12	422.0	6321	10.3	.024	26.0	.0027	-44.4			292.8	15.6	210.
13	410.0	6513	12.4	.030	31.6	.0030	-45.6			293.5	15.3	213.
14	398.0	6710	12.4	.031	31.7	.0033	-46.6			294.7	17.7	222.
15	384.0	6946	14.2	.037	36.3	.0037	-48.2			295.7	20.0	211.
16	371.5	7163	17.6	.047	45.4	.0041	-49.4			296.9	18.4	198.
17	361.0	7350	13.8	.038	35.8	.0044	-50.9			297.4	16.4	203.
18	349.5	7560	16.3	.047	42.7	.0048	-52.1			298.5	15.9	210.
19	339.0	7756	17.5	.052	46.0	.0052	-53.3			299.4	16.1	204.
20	328.0	7968	26.3	.080	69.1	.0058	-53.3			302.3	20.5	191.
21	316.0	8208	40.8	.129	106.9	.0068	-52.6			306.6	19.2	199.
22	307.0	8395	54.2	.177	140.9	.0079	-51.3			310.8	15.3	211.
23	298.0	8588	60.5	.203	156.4	.0092	-49.8			315.6	15.3	216.
24	289.0	8788	58.6	.203	151.8	.0106	-50.1			318.0	3.0	284.
25	280.0	8994	60.5	.216	156.8	.0121	-50.3			320.6	3.9	281.
26	272.0	9183	61.2	.225	157.7	.0135	-49.1			325.0	15.8	223.
27	266.0	9330	62.2	.234	158.2	.0146	-46.3			331.1	22.3	216.
28	259.0	9507	60.8	.235	154.2	.0159	-45.5			334.9	22.0	214.
29	250.0	9743	62.2	.249	157.3	.0176	-44.9			339.2	15.7	215.
30	241.0	9987	59.0	.245	149.6	.0194	-45.3			342.1	14.3	219.
31	233.0	10212	57.3	.246	144.9	.0209	-45.1			345.8	7.9	227.
32	228.0	10356	53.3	.234	135.1	.0219	-45.5			347.3	8.6	224.
33	220.0	10594	55.7	.253	141.1	.0234	-45.1			351.6	11.4	223.
34	212.0	10841	52.6	.248	133.4	.0250	-45.3			354.9	11.4	223.
35	204.0	11098	48.0	.235	120.9	.0265	-43.9			361.0	11.1	222.
36	198.0	11298	49.4	.249	124.7	.0277	-44.5			363.2	7.0	221.
37	192.9	11472	51.1	.265	128.9	.0287	-44.1			366.6	6.4	224.
38	186.7	11691	56.5	.303	142.4	.0301	-44.2			369.8	7.3	226.
39	180.7	11909	56.6	.313	143.3	.0315	-45.2			371.7	3.8	233.
40	174.8	12130	54.0	.309	136.7	.0330	-45.3			375.0	5.3	230.
41	168.8	12363	50.3	.298	127.0	.0344	-44.5			380.1	8.7	223.
42	163.8	12564	48.2	.294	122.0	.0356	-45.2			382.2	6.3	222.
43	158.6	12779	46.5	.293	117.8	.0368	-45.2			385.8	8.3	218.
44	154.0	12975	53.5	.347	136.0	.0380	-46.2			387.3	5.0	220.
45	149.2	13185	57.7	.387	146.7	.0393	-45.9			391.3	4.4	232.
46	144.3	13407	66.8	.463	168.9	.0410	-44.6			397.3	8.9	225.
47	139.9	13614	66.0	.472	167.1	.0426	-45.2			399.8	8.0	220.
48	135.5	13827	60.1	.444	152.4	.0442	-45.5			403.0	4.6	218.
49	131.4	14031	58.0	.441	147.1	.0456	-45.3			406.8	.7	218.

STATION: SOUTH POLE LAUNCH DATE: 28 FEB 86 327 Z ECC SONDE: 4A1924

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	127.3	14242	63.2	.496	160.2	.0471	-45.5			410.3	4.0	224.
51	123.2	14459	68.3	.554	173.9	.0488	-46.5			412.3	7.7	222.
52	119.2	14677	72.5	.608	184.8	.0507	-46.8			415.7	6.1	219.
53	115.1	14908	75.1	.652	192.5	.0527	-47.8			418.0	4.0	219.
54	111.2	15135	74.3	.668	190.5	.0547	-48.1			421.6	3.9	219.
55	107.6	15351	74.6	.693	191.5	.0567	-48.2			425.3	4.3	218.
56	103.9	15581	75.1	.723	193.1	.0587	-48.5			429.0	3.2	217.
57	100.0	15832	80.9	.809	207.6	.0611	-48.2			434.3	3.2	201.
58	96.9	16039	91.8	.947	235.5	.0632	-48.2			438.2	3.0	174.
59	94.9	16176	96.3	1.015	247.5	.0648	-48.5			440.3	3.5	169.
60	91.0	16452	100.1	1.100	257.0	.0680	-48.2			446.2	4.3	192.
61	88.1	16665	102.3	1.161	262.3	.0706	-47.9			450.9	3.4	211.
62	85.2	16885	108.9	1.278	279.0	.0734	-47.8			455.5	6.1	220.
63	82.3	17113	114.1	1.386	292.1	.0765	-47.5			460.3	6.3	228.
64	79.8	17317	126.5	1.585	322.8	.0794	-46.9			465.9	3.4	234.
65	77.1	17545	129.3	1.677	329.6	.0829	-46.6			471.1	.6	224.
66	74.5	17772	135.9	1.824	346.5	.0865	-46.6			475.7	2.1	217.
67	72.2	17980	130.2	1.803	331.8	.0898	-46.6			480.0	2.4	217.
68	69.9	18194	132.7	1.898	337.9	.0931	-46.5			484.8	2.9	217.
69	67.6	18416	138.4	2.047	351.4	.0967	-45.8			491.0	2.7	217.
70	65.4	18636	140.5	2.148	358.0	.1003	-46.5			494.1	3.1	217.
71	63.3	18852	141.6	2.237	360.6	.1040	-46.5			498.7	5.6	217.
72	61.2	19075	141.0	2.304	359.1	.1077	-46.5			503.6	3.9	217.
73	59.0	19318	141.3	2.395	359.9	.1118	-46.5			508.8	2.9	217.
74	56.9	19558	141.0	2.478	358.3	.1158	-45.9			515.4	.5	217.
75	54.8	19807	139.2	2.540	354.6	.1200	-46.5			519.7	1.4	217.
76	53.1	20016	136.2	2.565	346.8	.1234	-46.3			524.7	2.3	217.
77	51.6	20206	132.2	2.562	337.1	.1265	-46.8			528.0	.1	217.
78	50.1	20401	119.3	2.381	303.5	.1294	-46.2			533.9	1.1	217.
79	48.7	20589	118.9	2.441	302.7	.1320	-46.3			537.9	2.4	217.
80	47.1	20811	120.5	2.558	305.7	.1352	-45.6			544.7	2.7	217.
81	45.8	20997	125.7	2.745	319.0	.1379	-45.6			549.1	4.8	263.
82	44.2	21234	122.4	2.769	310.3	.1414	-45.3			555.4	5.4	271.
83	42.4	21511	123.2	2.906	313.1	.1454	-45.9			560.6	7.5	230.
84	40.2	21865	96.4	2.398	245.5	.1500	-46.5			567.8	5.5	225.
85	38.5	22151	88.8	2.306	226.3	.1532	-46.5			574.9	3.5	239.
86	37.0	22415	85.0	2.297	216.2	.1559	-46.1			582.5	3.9	257.
87	36.0	22597	81.9	2.275	207.8	.1577	-45.6			588.2	4.0	337.
88	35.0	22784	79.9	2.283	203.4	.1595	-46.5			590.7	5.0	333.
89	34.3	22918	81.7	2.382	207.7	.1608	-46.1			595.3	2.7	282.
90	33.1	23154	88.0	2.659	223.7	.1632	-46.1			601.4	1.5	222.
91	31.9	23400	83.1	2.605	210.5	.1657	-45.1			610.4	2.8	219.
92	30.6	23678	83.6	2.732	210.9	.1684	-44.4			619.6	4.8	219.
93	29.2	23991	82.2	2.815	207.4	.1715	-44.2			628.3	5.7	219.
94	28.0	24272	99.5	3.554	250.6	.1745	-43.9			636.7	8.4	220.
95	26.9	24541	114.5	4.257	288.3	.1779	-43.8			644.4	4.3	259.
96	26.0	24769	107.5	4.135	270.3	.1809	-43.5			651.5	5.8	274.
97	25.0	25033	103.5	4.140	259.6	.1841	-43.0			660.4	6.2	246.
98	24.1	25280	94.9	3.938	238.3	.1870	-43.3			666.6	4.0	247.
99	23.2	25535	87.2	3.759	219.5	.1897	-43.8			672.2	2.4	280.
100	22.4	25770	65.4	2.920	164.9	.1918	-43.9			678.6	2.4	291.
101	21.8	25952	59.6	2.734	149.9	.1932	-43.7			684.7	3.9	265.
102	20.9	26236	64.9	3.105	162.5	.1953	-42.6			696.3	3.7	268.
103	20.0	26533	65.9	3.295	165.1	.1975	-42.6			705.1	4.2	258.
104	19.3	26773	63.8	3.306	159.6	.1994	-42.6			712.4	4.3	245.

STATION: SOUTH POLE LAUNCH DATE: 28 FEB 86 327 Z ECC SONDE: 4A1924

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	18.4	27095	61.6	3.348	154.2	.2017	-42.6			722.1	4.7	255.
106	17.8	27318	57.4	3.225	144.5	.2033	-43.8			725.1	6.7	250.
107	17.1	27587	54.6	3.193	137.6	.2050	-44.1			732.5	7.1	232.
108	16.4	27867	50.8	3.098	128.3	.2068	-44.6			739.5	5.0	235.
109	15.9	28074	49.3	3.101	124.1	.2080	-43.9			748.4	3.8	256.
110	15.2	28376	46.6	3.066	116.9	.2097	-43.3			760.4	1.4	276.
111	14.7	28601	45.1	3.068	113.1	.2109	-43.0			768.6	1.1	247.
112	14.1	28882	43.2	3.064	108.3	.2124	-42.7			778.7	2.7	271.
113	13.7	29076	42.0	3.066	105.5	.2133	-43.0			784.2	5.0	255.
114	13.1	29378	39.2	2.992	98.0	.2148	-42.3			796.7	6.1	234.
115	12.5	29694	38.1	3.048	95.3	.2162	-42.4			807.0	2.5	229.
116	12.1	29914	36.4	3.008	90.7	.2172	-41.3			818.4	2.9	40.
117	11.8	30084	34.4	2.915	85.8	.2179	-41.5			823.8	.7	310.
118	11.2	30438	33.2	2.964	82.8	.2193	-41.3			836.6	4.6	232.
119	10.8	30685	30.4	2.815	75.7	.2202	-41.2			845.9	1.1	235.
120	10.3	31007	30.1	2.922	74.8	.2213	-40.9			858.4	3.8	40.
121	10.1	31140	27.6	2.733	68.7	.2217	-41.1			862.7	9.5	42.
122	9.8	31379	26.4	2.708	65.8	.2225	-41.2			871.0	5.2	43.
123	9.4	31656	25.7	2.746	64.0	.2233	-41.3			880.7	4.3	248.
124	9.0	31922	26.5	2.944	65.7	.2241	-40.5			893.7	5.3	254.
125	8.6	32208	26.1	3.024	64.5	.2250	-39.7			907.7	1.8	4.
126	8.3	32474	24.4	2.940	60.4	.2258	-39.4			918.9	.9	287.
127	8.0	32760	24.4	3.065	60.1	.2266	-38.5			933.7	4.5	247.
128	7.7	32988	22.7	2.948	55.9	.2272	-38.2			943.7	4.5	27.
129	7.5	33178	23.2	3.097	57.0	.2277	-38.1			951.7	11.5	52.
130	7.3	33383	22.4	3.081	54.9	.2282	-38.1			959.8	5.7	64.
131	7.0	33633	22.2	3.167	54.3	.2289	-37.7			971.5	3.2	217.
132	6.8	33883	19.1	2.825	46.9	.2295	-37.8			981.1	2.3	221.
133	6.5	34121	19.6	3.002	47.9	.2300	-37.3			993.1	.5	222.
134	6.3	34358	17.9	2.837	43.6	.2305	-36.6			1005.7	2.7	222.
135	6.1	34593	18.9	3.098	46.0	.2310	-35.6			1020.0	4.3	224.
136	5.9	34837	17.6	2.988	42.7	.2315	-34.6			1034.3	5.9	237.
137	5.7	35090	17.9	3.151	43.2	.2320	-34.4			1046.3	4.6	240.
138	5.5	35353	17.5	3.199	42.1	.2325	-33.6			1061.1	1.5	223.
139	5.3	35601	18.1	3.428	43.5	.2330	-33.2			1073.6	1.2	125.
140	5.1	35845	18.1	3.549	43.5	.2335	-32.8			1086.1	4.9	110.
141	4.9	36084	16.8	3.408	40.2	.2340	-32.0			1100.3	6.8	102.
142	4.8	36317	16.4	3.438	39.2	.2344	-32.0			1110.7	5.2	101.
143	4.6	36558	14.0	3.037	33.6	.2348	-31.9			1122.2	3.4	117.
144	4.5	36776	13.6	3.043	32.4	.2352	-31.2			1135.2	2.5	81.
145	4.3	37051	13.2	3.070	31.2	.2356	-29.6			1155.3	1.9	48.
146	4.2	37236	13.2	3.150	31.2	.2359	-28.8			1167.7	.7	35.
147	4.0	37515	11.9	2.953	27.9	.2362	-27.0			1189.6	4.7	318.
148	3.9	37714	12.9	3.291	30.3	.2365	-27.7			1195.8	8.9	320.
149	3.8	37919	11.1	2.913	26.1	.2368	-26.6			1210.8	5.7	326.
150	3.7	38111	12.4	3.342	28.9	.2370	-26.4			1221.3	3.0	18.
151	3.6	38328	11.0	3.056	25.7	.2373	-26.0			1233.8	.3	43.
152	3.5	38531	10.2	2.914	23.8	.2376	-26.4			1241.8	2.4	223.
153	3.4	38740	9.7	2.853	22.8	.2378	-26.5			1251.5	1.6	37.
154	3.3	38955	9.3	2.818	21.8	.2380	-26.6			1261.5	1.3	357.
155	3.2	39154	9.2	2.866	21.6	.2382	-26.7			1270.8	3.9	286.
156	3.2	39290	8.3	2.635	19.5	.2383	-26.7			1277.7	5.9	290.
157	3.1	39405	8.3	2.677	19.6	.2384	-26.9			1282.9	4.5	264.
158	3.0	39593	7.9	2.616	18.5	.2386	-27.0			1291.8	.3	253.
159	3.0	39689	8.5	2.852	19.9	.2387	-27.5			1294.0	5.7	43.

STATION: SOUTH POLE LAUNCH DATE: 28 FEB 86 327 Z ECC SONDE: 4A1924

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
160	2.9	39885	5.7	1.966	13.3	.2388	-26.9			1307.6	3.3	43.
161	2.8	40112	7.6	2.705	17.8	.2390	-27.7			1315.2	2.2	320.
162	2.7	40320	5.2	1.905	12.2	.2392	-26.6			1331.7	5.3	340.
163	2.7	40399	6.2	2.296	14.4	.2392	-26.4			1337.4	6.4	342.
164	2.7	40452	5.7	2.127	13.3	.2392	-25.3			1345.9	5.9	312.
165	2.6	40588	5.7	2.167	13.3	.2393	-25.7			1351.0	5.9	312.

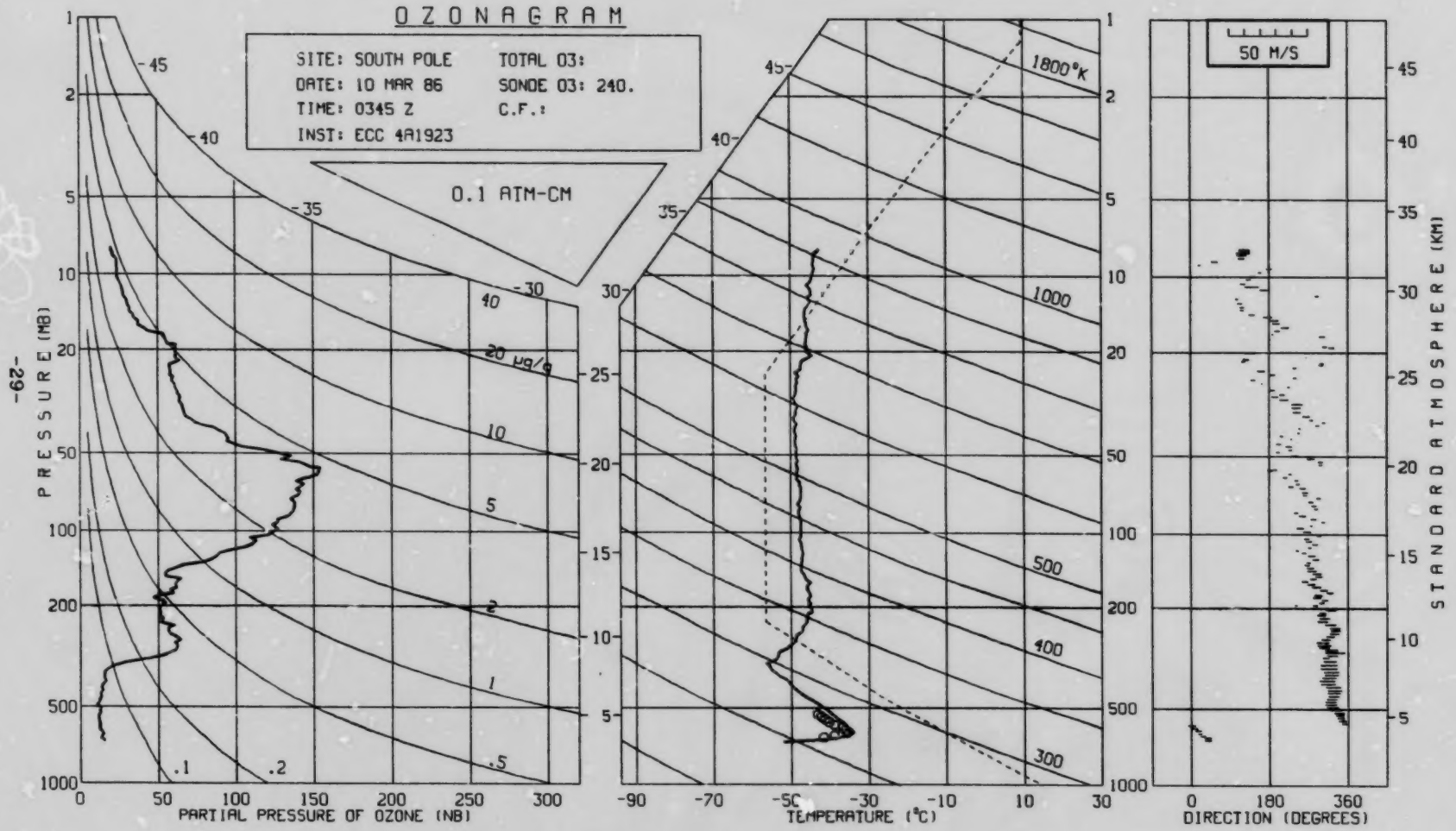
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
9.6	29.9	55.7	104.7	112.7	76.0	33.4	17.5

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110128028603	99	ECC	TOTAL O3 FROM SONDE DATA 245		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110228028603	590 7-30228	11 500 10-38226	14 300 59-50215	15 200 49-44221	8
1110328028603	150 57-46230	5 100 81-48201	3 70133-47217	3 50119-46217	1
1110428028603	30 83-44219	520.0 66-43258	410.6 27-41 42	8 7.0 22-38217	3
1110528028603	5.0 17-32105	6 3.0 8-27148	3 496 9-39225	20 339 18-53204	16
1110628028603	280 61-50281	4 266 62-46216	22 250 62-45215	16 181 57-45233	4
1110728028603	159 47-45218	8 144 67-45225	9 131 58-45218	1 119 73-47219	6
1110828028603	95 96-49169	4 82114-48228	6 80127-47234	3 75136-47217	2
1110928028603	57141-46217	1 52132-47217	0 42123-46230	8 40 96-47225	6
1111028028603	35 80-47333	5 33 88-46222	229.2 82-44219	626.9115-44259	4
1111128028603	23.2 87-44280	222.4 65-44291	221.8 60-44265	416.4 51-45235	5
1111228028603	4.5 14-31 81	3 4.0 12-27318	5 2.6 6-26312	6	



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 10 MAR 86 345 Z ECC SONDE: 4A1923
SURFACE CONDITIONS: PRESSURE 685.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.3 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.3 ORD;
O3 ORD ZERO 32.5, BKGND 32.7, CAL 75.4; O3 BKGND .025 MICROAMP; FLOW RATE 27.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 240.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	685.0	2800	16.0	.023	42.0	.0000	-52.3			246.1		
1	670.0	2946	12.8	.019	31.9	.0003	-40.9			260.5	4.3	38.
2	657.0	3080	13.6	.021	33.4	.0005	-37.7	-42.0	65.5	265.4	4.3	38.
3	644.0	3218	14.7	.023	35.7	.0007	-35.1	-39.2	67.3	270.0	3.2	26.
4	631.0	3360	13.9	.022	33.6	.0009	-34.3	-36.0	85.8	272.5	2.5	20.
5	615.0	3539	11.9	.019	28.9	.0012	-34.9	-36.5	87.0	273.7	3.4	16.
6	601.0	3699	12.3	.020	29.9	.0014	-36.0	-37.1	91.1	274.3	4.2	6.
7	587.0	3862	12.3	.021	30.0	.0016	-36.4	-39.3	76.1	275.7	4.5	0.
8	572.0	4041	11.9	.021	29.2	.0019	-37.3	-40.6	72.7	276.6	4.3	354.
9	558.5	4205	11.5	.021	28.3	.0021	-38.1	-41.7	70.6	277.6	4.3	348.
10	543.0	4398	11.5	.021	28.4	.0023	-39.1	-42.7	70.1	278.7	4.0	344.
11	531.0	4550	12.7	.024	31.5	.0026	-39.9	-43.6	69.4	279.5	4.9	342.
12	518.0	4719	12.3	.024	30.6	.0028	-40.7			280.5	6.6	340.
13	503.0	4918	12.7	.025	31.7	.0031	-41.7			281.7	7.1	332.
14	491.0	5081	10.3	.021	25.9	.0033	-42.7			282.4	7.2	325.
15	479.0	5247	12.0	.025	30.1	.0035	-43.8			283.1	7.4	321.
16	466.0	5431	12.3	.026	31.2	.0038	-44.9			283.9	6.9	321.
17	453.5	5612	13.5	.030	34.4	.0041	-46.2			284.5	6.3	324.
18	442.0	5782	12.8	.029	32.6	.0043	-47.4			285.1	7.0	328.
19	429.0	5978	14.3	.033	36.9	.0047	-48.5			286.1	7.5	328.
20	419.0	6132	13.5	.032	34.9	.0049	-49.3			287.1	8.8	330.
21	407.0	6322	14.3	.035	37.0	.0052	-50.2			288.3	9.5	327.
22	396.0	6500	16.2	.041	42.1	.0056	-50.8			289.8	9.3	314.
23	384.0	6700	15.4	.040	40.2	.0059	-51.7			291.1	9.2	312.
24	374.0	6870	15.5	.041	40.8	.0063	-53.4			291.0	8.5	317.
25	364.0	7044	15.5	.043	40.9	.0066	-54.2			292.3	8.7	323.
26	354.5	7213	17.5	.049	46.3	.0069	-55.3			292.9	9.8	322.
27	344.0	7404	21.3	.062	56.4	.0074	-55.7			295.0	10.5	316.
28	333.5	7601	29.1	.087	77.6	.0080	-56.5			296.5	10.4	316.
29	323.0	7805	44.3	.137	116.7	.0089	-54.2			302.4	7.9	319.
30	313.0	8006	53.6	.171	141.0	.0102	-53.6			306.0	4.0	310.
31	306.0	8151	56.9	.186	149.5	.0111	-53.6			308.0	6.7	325.
32	299.0	8300	61.2	.205	160.5	.0122	-53.1			310.7	12.4	331.
33	292.0	8453	62.1	.213	161.9	.0134	-51.5			315.0	7.7	323.
34	286.0	8588	62.2	.217	161.4	.0144	-50.8			318.0	5.9	306.
35	279.0	8749	60.6	.217	156.8	.0156	-49.9			321.6	8.5	306.
36	271.5	8927	64.3	.237	165.7	.0169	-49.1			325.2	7.8	303.
37	264.0	9110	61.2	.232	157.8	.0183	-49.1			327.8	5.6	310.
38	258.0	9260	57.8	.224	148.8	.0194	-48.8			330.4	5.0	321.
39	251.0	9441	56.4	.225	144.3	.0206	-47.5			334.9	6.2	330.
40	245.0	9601	56.6	.231	144.6	.0217	-47.2			337.7	6.1	333.
41	239.5	9751	60.2	.251	153.8	.0228	-47.2			339.9	6.4	330.
42	232.0	9961	51.3	.221	130.5	.0242	-46.3			344.3	6.8	321.
43	225.0	10164	53.1	.236	135.0	.0254	-46.2			347.6	6.2	302.
44	220.0	10313	50.6	.230	128.8	.0263	-46.2			349.8	6.2	307.
45	213.0	10528	52.0	.244	132.2	.0277	-45.9			353.5	5.0	299.
46	209.5	10638	50.9	.243	128.6	.0283	-44.8			357.0	3.9	303.
47	203.0	10848	51.2	.252	129.7	.0296	-45.1			359.7	5.7	322.
48	195.0	11116	53.0	.272	134.5	.0313	-45.8			362.8	2.5	285.
49	194.7	11126	54.6	.280	138.4	.0313	-45.2			363.8	1.5	241.

STATION: SOUTH POLE LAUNCH DATE: 10 MAR 86 345 Z ECC SONDE: 4A1923

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	189.9	11292	52.8	.278	134.0	.0324	-45.8			365.5	2.7	300.
51	185.1	11462	47.3	.256	120.2	.0334	-45.8			368.2	3.2	308.
52	180.4	11633	50.9	.282	129.0	.0344	-45.2			371.9	4.7	290.
53	176.0	11797	59.8	.340	151.6	.0355	-45.5			374.0	4.8	292.
54	171.4	11973	58.0	.338	147.3	.0367	-45.9			376.1	4.4	319.
55	166.9	12149	62.0	.371	157.7	.0380	-46.2			378.5	4.5	305.
56	162.2	12338	61.1	.377	155.3	.0393	-46.1			381.9	5.1	288.
57	157.9	12517	62.1	.393	157.3	.0406	-45.2			386.3	4.3	276.
58	153.6	12700	64.6	.421	164.5	.0420	-46.2			387.6	3.6	262.
59	149.7	12870	54.5	.364	139.0	.0432	-46.6			389.7	3.5	281.
60	145.9	13040	54.5	.374	139.2	.0443	-46.9			392.1	4.3	294.
61	142.2	13209	56.5	.397	144.6	.0455	-47.5			394.0	5.5	289.
62	138.5	13383	61.8	.446	158.2	.0467	-47.6			396.7	5.3	278.
63	135.0	13552	66.1	.490	169.1	.0480	-47.5			399.9	4.1	275.
64	131.5	13725	79.1	.602	202.4	.0495	-47.5			402.9	2.7	267.
65	128.4	13882	84.5	.658	216.2	.0510	-47.4			405.9	2.1	270.
66	124.8	14070	87.6	.702	224.1	.0530	-47.4			409.2	3.8	286.
67	121.2	14263	90.3	.745	230.5	.0550	-47.1			413.2	4.0	278.
68	118.2	14428	97.4	.824	248.9	.0569	-47.2			415.9	2.5	260.
69	115.1	14603	106.3	.924	272.1	.0590	-47.5			418.5	1.7	244.
70	112.1	14777	110.9	.989	283.8	.0613	-47.5			421.7	1.8	273.
71	109.2	14950	112.9	1.034	289.1	.0636	-47.6			424.6	2.9	285.
72	106.5	15115	109.6	1.029	281.1	.0658	-48.1			426.8	3.6	271.
73	103.9	15278	121.4	1.168	310.8	.0680	-47.6			430.7	3.1	266.
74	101.2	15451	124.0	1.225	317.5	.0706	-47.6			433.9	2.5	294.
75	97.9	15669	127.0	1.297	325.2	.0739	-47.6			438.0	4.7	267.
76	95.2	15853	123.5	1.297	316.2	.0766	-47.6			441.6	4.2	251.
77	92.9	16014	126.8	1.365	324.5	.0790	-47.6			444.7	1.2	276.
78	90.2	16208	127.0	1.408	325.2	.0820	-47.6			448.4	2.2	304.
79	87.8	16386	133.3	1.518	341.8	.0848	-47.9			451.3	3.5	282.
80	85.2	16584	136.2	1.599	349.6	.0880	-48.2			454.6	3.7	256.
81	82.8	16772	137.3	1.658	352.5	.0911	-48.2			458.3	2.2	242.
82	80.3	16974	137.8	1.716	353.1	.0944	-47.8			463.3	2.0	287.
83	78.0	17165	138.1	1.771	355.1	.0975	-48.5			465.6	2.7	283.
84	75.6	17370	135.3	1.790	346.7	.1009	-47.8			471.3	2.4	276.
85	73.2	17583	140.1	1.914	358.8	.1044	-47.6			476.0	2.3	294.
86	71.3	17756	141.3	1.982	361.7	.1073	-47.6			479.6	2.4	263.
87	69.8	17896	138.8	1.989	355.3	.1097	-47.6			482.5	3.3	263.
88	67.1	18156	142.7	2.127	365.4	.1141	-47.6			488.0	3.3	257.
89	66.4	18225	143.3	2.158	367.6	.1153	-48.1			488.5	3.0	230.
90	64.7	18396	139.0	2.148	356.4	.1181	-47.9			492.4	2.3	246.
91	62.9	18581	144.6	2.299	372.2	.1213	-48.8			494.5	2.1	242.
92	61.1	18771	152.1	2.489	391.2	.1247	-48.7			498.9	2.3	217.
93	59.2	18978	153.2	2.588	394.1	.1285	-48.7			503.4	1.6	228.
94	57.3	19192	153.8	2.684	395.1	.1325	-48.4			508.8	2.7	182.
95	56.9	19238	147.8	2.598	379.8	.1333	-48.5			509.5	2.2	193.
96	54.3	19545	140.7	2.591	362.0	.1386	-48.8			515.7	1.9	298.
97	52.9	19716	129.6	2.450	332.9	.1414	-48.4			520.6	2.6	298.
98	51.2	19930	134.9	2.635	347.3	.1448	-48.8			524.4	4.2	276.
99	49.8	20112	126.9	2.548	326.7	.1477	-48.8			528.6	3.5	239.
100	48.2	20326	117.5	2.438	302.3	.1508	-48.8			533.5	2.1	200.
101	47.0	20491	104.1	2.215	267.7	.1530	-48.7			537.8	1.8	229.
102	45.7	20675	98.8	2.162	254.5	.1553	-49.1			541.0	3.5	225.
103	44.6	20834	94.2	2.112	242.9	.1571	-49.1			544.8	2.8	201.
104	43.6	20982	95.2	2.183	245.3	.1588	-49.1			548.3	.6	242.

STATION: SOUTH POLE LAUNCH DATE: 10 MAR 86 345 Z ECC SONDE: 4A1923

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	42.6	21134	94.2	2.211	242.7	.1606	-49.0			552.3	.7	231.
106	41.6	21289	93.0	2.236	239.6	.1623	-49.0			556.1	1.4	208.
107	40.5	21464	88.5	2.185	228.3	.1642	-49.3			559 6	.9	247.
108	39.8	21578	86.7	2.178	223.5	.1654	-49.3			562.4	.3	211.
109	38.8	21744	78.1	2.013	201.4	.1671	-49.1			566.9	.8	250.
110	37.9	21898	74.0	1.953	190.3	.1685	-48.7			571.9	1.7	291.
111	36.9	22073	71.:	1.935	184.0	.1700	-49.3			574.7	1.5	305.
112	36.0	22234	68.2	1.894	176.0	.1714	-49.6			578.6	1.7	277.
113	34.9	22437	66.8	1.914	172.1	.1730	-49.0			584.7	4.1	265.
114	33.7	22666	66.3	1.967	170.9	.1749	-49.0			590.6	4.6	243.
115	32.4	22924	65.4	2.019	168.1	.1769	-48.5			598.4	5.3	242.
116	31.3	23150	63.8	2.038	164.4	.1787	-49.1			602.8	6.8	245.
117	30.2	23384	64.5	2.136	166.6	.1805	-49.6			607.8	5.3	214.
118	29.4	23559	62.4	2.122	160.9	.1818	-49.1			613.7	4.3	193.
119	28.8	23694	62.8	2.181	161.7	.1829	-49.0			617.7	3.0	209.
120	27.7	23949	61.2	2.209	157.4	.1848	-48.8			625.0	2.3	188.
121	27.0	24117	61.0	2.259	157.0	.1860	-49.0			629.2	1.2	225.
122	26.2	24314	59.0	2.252	151.6	.1874	-48.5			635.9	.6	164.
123	25.4	24517	60.0	2.362	154.5	.1889	-48.8			640.7	2.4	143.
124	24.9	24647	57.7	2.317	147.9	.1898	-48.1			646.5	1.9	239.
125	24.2	24834	58.3	2.409	150.2	.1911	-49.1			648.8	3.5	188.
126	23.5	25027	57.8	2.460	147.9	.1924	-47.6			658.5	4.9	162.
127	22.9	25197	57.4	2.507	147.1	.1936	-47.6			663.4	1.5	239.
128	22.3	25372	61.9	2.776	158.3	.1949	-47.5			668.9	2.4	299.
129	22.0	25461	63.8	2.900	163.2	.1955	-47.5			671.5	1.9	301.
130	21.6	25582	61.8	2.861	157.7	.1965	-46.9			676.8	1.7	121.
131	21.2	25706	61.2	2.887	155.4	.1974	-45.9			683.4	3.5	127.
132	20.8	25833	61.9	2.976	156.4	.1983	-44.8			690.6	.5	264.
133	20.0	26094	61.2	3.060	155.7	.2002	-46.2			694.0	4.1	315.
134	19.0	26434	61.7	3.247	156.8	.2027	-46.2			704.3	3.5	323.
135	18.8	26504	56.2	2.989	143.2	.2032	-46.5			705.5	2.8	308.
136	17.1	27133	53.7	3.140	136.6	.2073	-46.1			726.2	3.3	302.
137	16.7	27290	44.2	2.647	112.4	.2082	-46.2			730.7	.6	188.
138	16.2	27492	41.2	2.543	104.5	.2092	-45.6			739.0	3.1	198.
139	15.7	27700	37.4	2.382	95.1	.2102	-46.3			743.2	4.7	217.
140	15.1	27958	37.5	2.483	95.5	.2113	-46.3			751.6	4.4	196.
141	14.7	28136	34.7	2.361	88.3	.2121	-46.6			756.4	5.3	192.
142	14.2	28365	34.0	2.394	86.5	.2130	-46.6			763.9	5.2	177.
143	13.9	28506	31.8	2.288	80.9	.2136	-46.6			768.6	3.8	140.
144	13.4	28749	31.9	2.381	81.3	.2145	-46.5			777.2	1.3	118.
145	13.1	28899	30.5	2.328	77.4	.2151	-45.9			784.2	2.1	118.
146	12.6	29158	30.2	2.397	76.5	.2160	-45.2			795.5	2.8	113.
147	12.1	29427	28.0	2.314	71.2	.2169	-45.9			802.2	1.3	106.
148	11.8	29594	27.7	2.347	70.0	.2175	-44.9			811.5	1.9	290.
149	11.2	29942	27.0	2.411	68.3	.2186	-45.2			822.7	5.3	168.
150	10.9	30122	26.2	2.404	66.7	.2192	-46.1			826.0	9.0	141.
151	10.6	30307	25.1	2.368	63.7	.2197	-45.3			835.2	3.2	120.
152	10.2	30563	24.0	2.353	60.6	.2205	-44.8			846.5	3.2	133.
153	9.9	30749	23.6	2.379	59.7	.2210	-44.8			853.3	3.2	143.
154	9.6	30982	24.1	2.516	60.8	.2217	-44.3			863.4	2.0	160.
155	9.3	31188	23.8	2.562	60.0	.2223	-44.1			872.1	3.1	180.
156	9.0	31400	23.8	2.644	60.2	.2229	-44.5			878.4	1.2	20.
157	8.7	31611	23.8	2.729	60.2	.2234	-44.3			887.0	4.0	55.
158	8.4	31829	21.1	2.500	53.3	.2240	-44.3			895.3	3.4	117.
159	8.2	31997	21.1	2.564	53.3	.2244	-44.3			901.7	6.0	117.

STATION: SOUTH POLE LAUNCH DATE: 10 MAR 86 345 Z ECC SONDE: 4A1923

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
160	8.1	32112	20.0	2.472	50.3	.2247	-43.5			909.5	8.5	121.
161	8.0	32204	20.4	2.556	51.2	.2249	-43.1			914.8	6.4	124.
162	7.9	32280	20.0	2.535	50.2	.2251	-42.9			918.3	6.4	124.

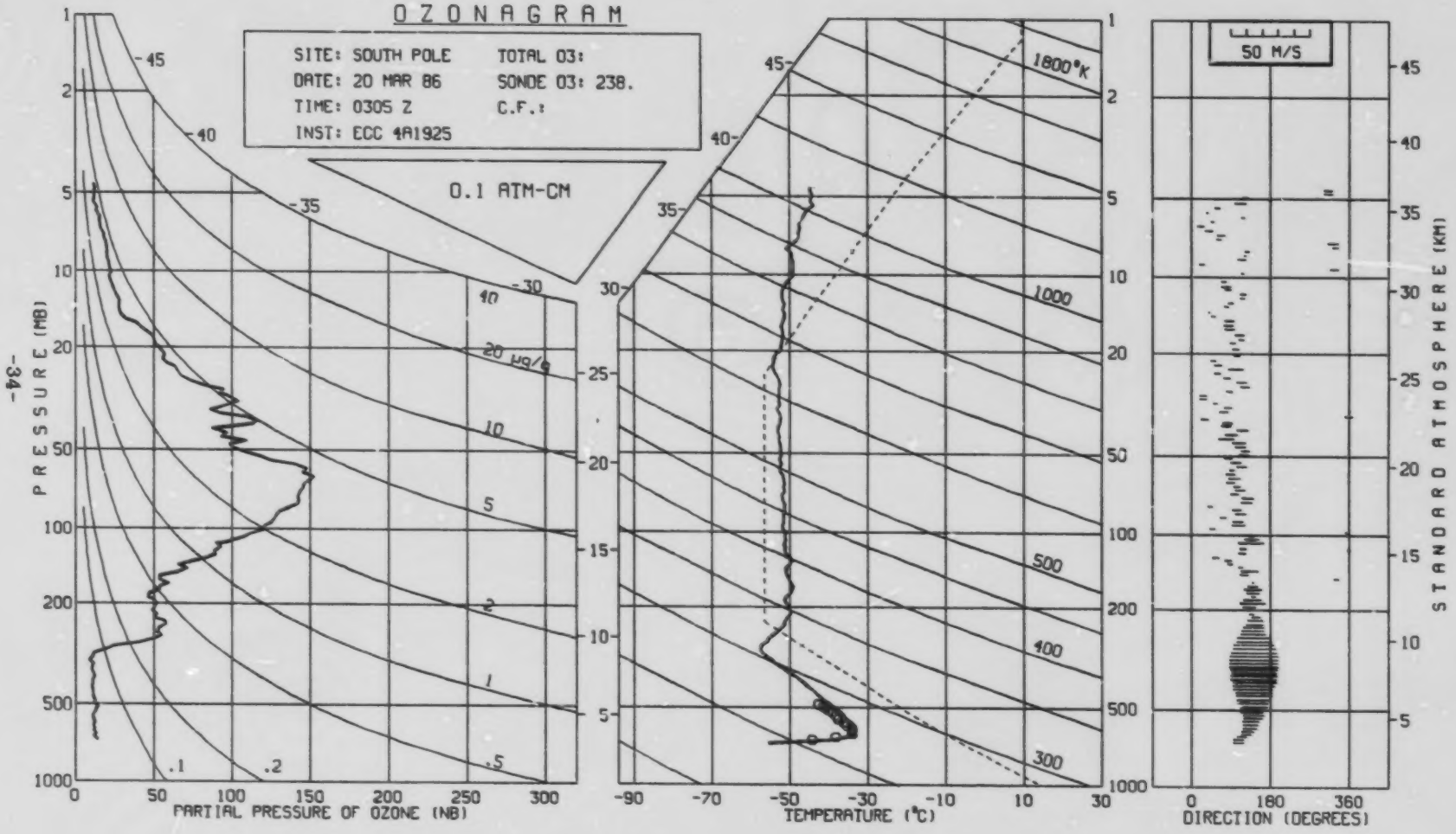
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.7	32.3	58.6	126.5	103.6	57.7	28.3	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG LSXXX XP T CORR COMMENTS
1110110038604 99 ECC TOTAL O3 FROM SONDE DATA 240
ISNNNYYMMJJGG PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110210038604 685 16-52 500 12-42330 7 300 61-53330 12 200 52-45308 5
1110310038604 150 55-47280 4 100125-48284 3 70139-48263 3 50128-49244 4
1110410038604 30 64-49209 520.0 61-46315 410.0 24-45140 3 670 13-41 38 4
1110510038604 631 14-34 20 3 355 18-55322 10 334 29-57316 10 272 64-49303 8
1110610038604 251 56-48330 6 185 47-46308 3 176 60-46292 5 154 65-46262 4
1110710038604 142 57-48289 6 115106-48244 2 107110-48271 4 57154-48182 3
1110810038604 53130-48298 3 51135-49276 4 45 94-49201 3 42 93-49208 1
1110910038604 36 68-50277 224.2 58-49188 420.8 62-45264 117.1 54-46302 3
1111010038604 15.7 37-46217 5 7.9 20-43124 6



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 20 MAR 86 305 Z ECC SONDE: 4A1925
SURFACE CONDITIONS: PRESSURE 686.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.7 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.8 ORD;
O3 ORD ZERO 32.3, BKGND 32.9, CAL 70.5; O3 BKGND .083 MICROAMP; FLOW RATE 27.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 238.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	686.5	2800	14.1	.021	37.5	.0000	-55.7			242.1		
1	668.0	2980	11.8	.018	29.1	.0003	-39.0	-44.6	56.4	262.7	6.4	107.
2	651.0	3158	13.0	.920	31.7	.0005	-35.8	-38.5	78.0	268.3	6.4	107.
3	633.5	3348	11.7	.018	28.2	.0008	-33.3	-34.3	92.5	273.3	6.1	115.
4	619.0	3510	12.1	.020	29.1	.0010	-33.2	-34.2	92.5	275.2	6.3	125.
5	601.5	3711	11.2	.019	26.9	.0013	-33.2	-34.4	90.7	277.5	7.6	128.
6	585.5	3900	12.3	.021	29.6	.0015	-33.7	-35.7	83.3	279.0	8.3	133.
7	569.5	4093	11.3	.020	27.5	.0018	-34.6	-36.5	84.5	280.2	9.2	134.
8	552.5	4304	11.0	.020	26.7	.0021	-35.8	-38.0	82.2	281.2	10.3	135.
9	537.0	4501	12.5	.023	30.6	.0023	-36.4	-38.5	81.9	282.8	11.8	140.
10	522.0	4697	13.0	.025	31.8	.0026	-37.1	-39.4	81.4	284.2	13.2	141.
11	509.5	4864	14.2	.028	35.0	.0029	-38.1	-40.6	78.4	285.0	14.1	137.
12	498.0	5020	11.6	.023	28.7	.0031	-39.0	-41.7	77.2	285.7	15.4	140.
13	486.0	5186	12.5	.026	30.8	.0033	-40.0	-43.0	74.1	286.6	17.7	141.
14	471.0	5399	11.4	.024	28.4	.0036	-41.3			287.5	19.6	139.
15	456.0	5618	11.0	.024	27.4	.0039	-42.6			288.6	21.2	141.
16	440.0	5858	10.9	.025	27.5	.0042	-43.7			290.2	22.6	142.
17	427.0	6059	10.5	.025	26.4	.0045	-44.6			291.4	23.6	142.
18	414.0	6265	10.9	.026	27.7	.0047	-45.8			292.5	24.6	139.
19	402.0	6460	10.9	.027	27.7	.0050	-46.6			293.9	26.3	142.
20	390.0	6660	12.1	.031	31.1	.0053	-47.9			294.8	27.5	144.
21	379.0	6848	11.2	.030	28.9	.0055	-48.8			296.0	29.2	141.
22	367.0	7058	10.2	.028	26.5	.0058	-50.3			296.8	29.8	142.
23	357.0	7237	10.6	.030	27.7	.0060	-51.3			297.7	28.6	143.
24	346.5	7430	11.4	.033	29.9	.0063	-52.6			298.6	29.8	142.
25	336.0	7628	8.9	.026	23.4	.0065	-54.0			299.4	31.5	142.
26	325.0	7841	10.9	.034	28.9	.0068	-54.7			301.1	31.1	142.
27	314.0	8060	11.8	.038	31.3	.0071	-56.2			302.1	31.0	142.
28	304.0	8265	18.8	.062	50.4	.0075	-57.2			303.5	30.4	142.
29	294.0	8476	24.2	.082	64.8	.0081	-57.7			305.7	29.3	142.
30	284.0	8694	40.8	.144	109.1	.0089	-57.5			309.0	27.1	143.
31	273.0	8944	51.0	.187	135.5	.0104	-55.9			314.9	25.7	142.
32	266.0	9109	54.6	.205	145.1	.0115	-55.7			317.5	22.2	142.
33	257.0	9328	52.0	.202	137.2	.0129	-54.4			322.5	20.6	141.
34	249.0	9531	53.8	.216	141.3	.0142	-53.2			327.3	15.6	140.
35	241.0	9741	57.8	.240	151.0	.0157	-52.2			331.7	14.0	140.
36	234.0	9931	57.0	.244	148.6	.0170	-51.6			335.5	13.8	142.
37	228.0	10099	50.6	.222	131.8	.0181	-51.5			338.2	10.9	144.
38	220.0	10331	52.0	.236	135.2	.0195	-51.0			342.4	9.8	145.
39	214.0	10511	49.2	.230	127.4	.0206	-50.0			346.7	5.6	147.
40	208.0	10696	50.6	.243	130.9	.0218	-50.0			349.5	2.9	137.
41	200.0	10952	51.7	.259	134.1	.0233	-50.6			352.5	1.9	110.
42	194.5	11133	50.6	.260	131.5	.0245	-51.0			354.6	8.1	132.
43	188.2	11346	46.1	.245	120.2	.0257	-51.6			357.0	16.2	139.
44	182.4	11549	47.1	.258	122.5	.0269	-51.2			361.0	11.5	139.
45	176.9	11748	53.3	.301	137.9	.0281	-50.1			365.8	2.4	140.
46	171.7	11943	53.7	.313	138.8	.0294	-49.7			369.7	8.0	140.
47	166.5	12144	59.2	.356	152.7	.0307	-49.4			373.5	11.2	140.
48	161.3	12351	53.6	.332	138.5	.0321	-49.8			376.1	6.0	140.
49	156.2	12560	54.1	.346	140.2	.0335	-50.4			378.6	.9	140.

STATION: SOUTH POLE LAUNCH DATE: 20 MAR 86 305 Z ECC SONDE: 4A1925

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	150.9	12784	65.8	.436	171.0	.0351	-50.9			381.6	3.1	331.
51	146.2	12989	71.1	.486	185.0	.0368	-51.3			384.2	5.3	120.
52	141.4	13205	66.2	.468	172.1	.0387	-51.2			388.2	10.8	132.
53	136.8	13420	74.6	.545	193.1	.0405	-50.3			393.5	2.5	112.
54	132.3	13638	83.8	.633	216.7	.0426	-49.8			398.0	3.0	88.
55	128.1	13848	89.4	.698	231.4	.0448	-50.1			401.2	4.5	83.
56	124.9	14012	88.9	.712	231.1	.0466	-51.2			402.2	3.5	55.
57	119.6	14293	92.7	.775	241.4	.0497	-51.5			406.7	4.7	115.
58	115.2	14536	90.2	.783	234.7	.0524	-51.3			411.3	2.8	359.
59	114.0	14603	96.8	.849	252.5	.0531	-51.8			411.7	4.0	118.
60	107.9	14959	107.8	.999	280.5	.0576	-51.3			419.1	15.7	136.
61	104.3	15179	112.3	1.077	292.4	.0605	-51.5			422.9	9.1	138.
62	100.8	15400	120.1	1.191	312.4	.0637	-51.2			427.6	3.1	137.
63	97.4	15622	120.8	1.240	315.6	.0669	-52.1			430.0	1.4	354.
64	94.3	15831	125.2	1.328	327.1	.0701	-52.1			434.0	3.1	48.
65	91.4	16033	126.8	1.387	330.8	.0732	-51.8			438.5	7.8	108.
66	88.2	16264	128.2	1.454	334.3	.0768	-51.8			443.0	6.5	106.
67	85.3	16480	130.3	1.528	339.8	.0802	-51.8			447.3	3.9	72.
68	82.5	16696	136.3	1.652	355.4	.0837	-51.6			451.9	7.0	112.
69	79.8	16911	141.7	1.776	368.9	.0873	-51.5			456.5	5.6	104.
70	77.2	17125	142.6	1.847	371.6	.0910	-51.6			460.5	2.9	42.
71	74.7	17338	142.2	1.904	371.4	.0947	-52.1			463.9	6.4	126.
72	72.0	17576	143.3	1.990	374.6	.0989	-52.2			468.5	7.7	128.
73	69.6	17795	145.1	2.085	378.0	.1027	-51.5			474.7	4.6	98.
74	67.2	18022	146.0	2.173	380.9	.1068	-51.8			478.8	6.4	111.
75	64.9	18247	149.2	2.299	388.6	.1108	-51.5			484.3	4.1	104.
76	62.8	18460	151.8	2.417	396.0	.1147	-51.8			488.2	5.1	90.
77	60.6	18691	145.2	2.396	378.8	.1189	-51.9			492.8	7.5	98.
78	58.5	18919	147.5	2.521	386.4	.1230	-52.7			496.1	5.2	89.
79	56.5	19143	140.5	2.487	368.0	.1269	-52.7			501.0	2.9	93.
80	54.7	19352	124.8	2.282	326.3	.1303	-52.4			506.4	6.0	115.
81	52.8	19580	118.3	2.241	310.1	.1337	-52.9			510.5	6.5	101.
82	51.0	19804	108.1	2.120	282.7	.1368	-52.4			516.6	4.2	84.
83	49.4	20010	101.6	2.057	266.0	.1395	-52.6			521.0	5.6	120.
84	47.8	20222	98.7	2.065	258.3	.1421	-52.6			525.9	5.2	123.
85	46.2	20441	108.0	2.338	282.8	.1448	-52.7			530.7	6.5	111.
86	44.6	20668	93.2	2.090	244.3	.1476	-53.0			535.3	8.4	108.
87	43.0	20903	96.4	2.242	252.7	.1504	-52.9			541.3	9.7	79.
88	41.4	21147	88.4	2.135	232.2	.1531	-53.3			546.1	7.7	91.
89	39.8	21400	112.9	2.837	296.3	.1563	-53.2			552.6	7.2	116.
90	38.4	21630	115.8	3.016	303.4	.1595	-52.7			559.5	6.2	79.
91	37.2	21834	109.2	2.935	286.1	.1623	-52.7			564.6	6.2	82.
92	36.0	22045	93.0	2.583	243.5	.1649	-52.6			570.3	4.5	30.
93	34.8	22263	86.8	2.494	227.5	.1673	-52.9			575.0	4.8	359.
94	33.5	22508	95.8	2.860	252.1	.1701	-53.6			579.3	5.3	73.
95	32.2	22762	103.9	3.227	272.4	.1732	-52.9			587.9	4.8	83.
96	31.0	23006	99.3	3.203	260.6	.1762	-53.0			593.9	2.7	54.
97	29.8	23260	92.8	3.114	243.3	.1792	-53.0			600.7	4.2	26.
98	28.8	23480	94.3	3.274	247.2	.1817	-52.9			607.0	4.6	26.
99	27.9	23684	82.8	2.968	216.9	.1840	-52.9			612.5	4.1	86.
100	26.8	23943	73.3	2.735	192.1	.1864	-52.7			620.0	5.8	122.
101	25.7	24213	67.7	2.634	177.6	.1888	-53.0			626.6	6.6	114.
102	24.7	24468	65.7	2.660	172.8	.1909	-53.6			632.0	4.1	81.
103	23.7	24733	63.7	2.688	168 1	.1930	-54.3			637.7	4.0	58.
104	22.9	24952	58.0	2.533	153.2	.1946	-54.6			643.0	9.3	101.

STATION: SOUTH POLE LAUNCH DATE: 20 MAR 86 305 Z ECC SONDE: 4A1925

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	22.1	25179	55.7	2.520	146.9	.1962	-54.3			650.5	4.8	60.
106	21.2	25445	57.0	2.689	150.5	.1981	-54.3			658.3	3.2	49.
107	20.3	25723	54.3	2.675	142.9	.2000	-53.6			668.4	3.7	103.
108	19.9	25851	53.3	2.678	139.5	.2008	-52.7			675.1	1.6	61.
109	19.1	26116	50.5	2.644	132.0	.2025	-52.4			684.0	3.9	101.
110	18.2	26428	49.8	2.736	130.1	.2044	-52.2			694.0	3.5	94.
111	17.6	26645	46.9	2.665	122.5	.2057	-51.9			701.6	3.7	113.
112	16.9	26907	42.9	2.538	112.0	.2071	-52.1			709.3	5.9	109.
113	16.1	27220	38.5	2.391	100.7	.2087	-52.4			718.2	6.1	87.
114	15.6	27424	31.7	2.032	82.9	.2096	-52.1			725.7	6.0	84.
115	15.0	27678	29.0	1.933	75.7	.2105	-51.6			735.4	5.6	86.
116	14.4	27942	27.9	1.938	72.6	.2114	-51.5			744.6	2.4	49.
117	13.9	28171	27.5	1.978	71.9	.2122	-52.1			750.1	1.2	39.
118	13.2	28506	28.0	2.121	72.8	.2133	-51.5			763.3	2.6	79.
119	12.8	28705	26.8	2.094	70.0	.2140	-52.1			767.9	2.8	89.
120	12.2	29015	25.3	2.074	66.1	.2150	-52.2			778.0	2.6	116.
121	11.7	29285	24.2	2.068	63.3	.2158	-52.2			787.4	3.7	117.
122	11.2	29567	23.1	2.063	60.3	.2166	-51.8			798.9	3.6	83.
123	10.9	29743	22.3	2.046	58.1	.2171	-51.3			806.8	6.1	78.
124	10.4	30048	21.5	2.067	55.8	.2179	-50.3			821.6	3.3	73.
125	10.1	30239	22.7	2.248	58.7	.2184	-49.4			831.8	.4	353.
126	9.6	30551	21.6	2.243	55.8	.2192	-49.4			843.2	1.4	116.
127	9.3	30814	21.3	2.303	54.9	.2199	-49.4			852.9	5.3	326.
128	8.9	31081	20.1	2.264	51.9	.2206	-49.4			862.9	2.8	23.
129	8.5	31352	19.8	2.324	51.2	.2212	-49.7			872.0	5.1	114.
130	8.2	31594	19.9	2.424	51.4	.2218	-49.7			881.3	1.1	122.
131	7.9	31845	19.5	2.468	50.8	.2224	-51.2			885.1	2.5	127.
132	7.6	32071	19.1	2.503	49.4	.2229	-49.7			900.0	3.2	329.
133	7.4	32289	18.0	2.439	46.2	.2234	-48.4			913.9	6.7	323.
134	7.1	32525	18.0	2.528	46.2	.2239	-47.9			925.2	2.9	62.
135	6.9	32780	16.0	2.336	41.0	.2245	-47.9			935.4	4.9	67.
136	6.6	33035	15.6	2.367	39.9	.2249	-47.6			947.0	5.1	39.
137	6.3	33300	15.2	2.401	39.0	.2254	-47.8			957.4	4.2	21.
138	6.1	33544	15.2	2.492	38.9	.2259	-47.1			970.7	1.5	47.
139	5.9	33798	13.1	2.232	33.5	.2263	-46.5			983.9	2.0	118.
140	5.6	34087	13.6	2.420	34.4	.2268	-45.8			999.3	1.3	36.
141	5.4	34366	11.1	2.059	27.9	.2272	-44.1			1018.8	3.1	58.
142	5.2	34645	11.9	2.302	30.2	.2275	-44.9			1027.2	7.3	112.
143	4.9	34949	11.9	2.409	30.1	.2280	-44.4			1043.2	2.8	124.
144	4.8	35183	12.0	2.516	30.3	.2283	-44.9			1051.1	5.6	313.
145	4.6	35396	11.6	2.511	29.2	.2286	-44.9			1060.8	5.6	313.

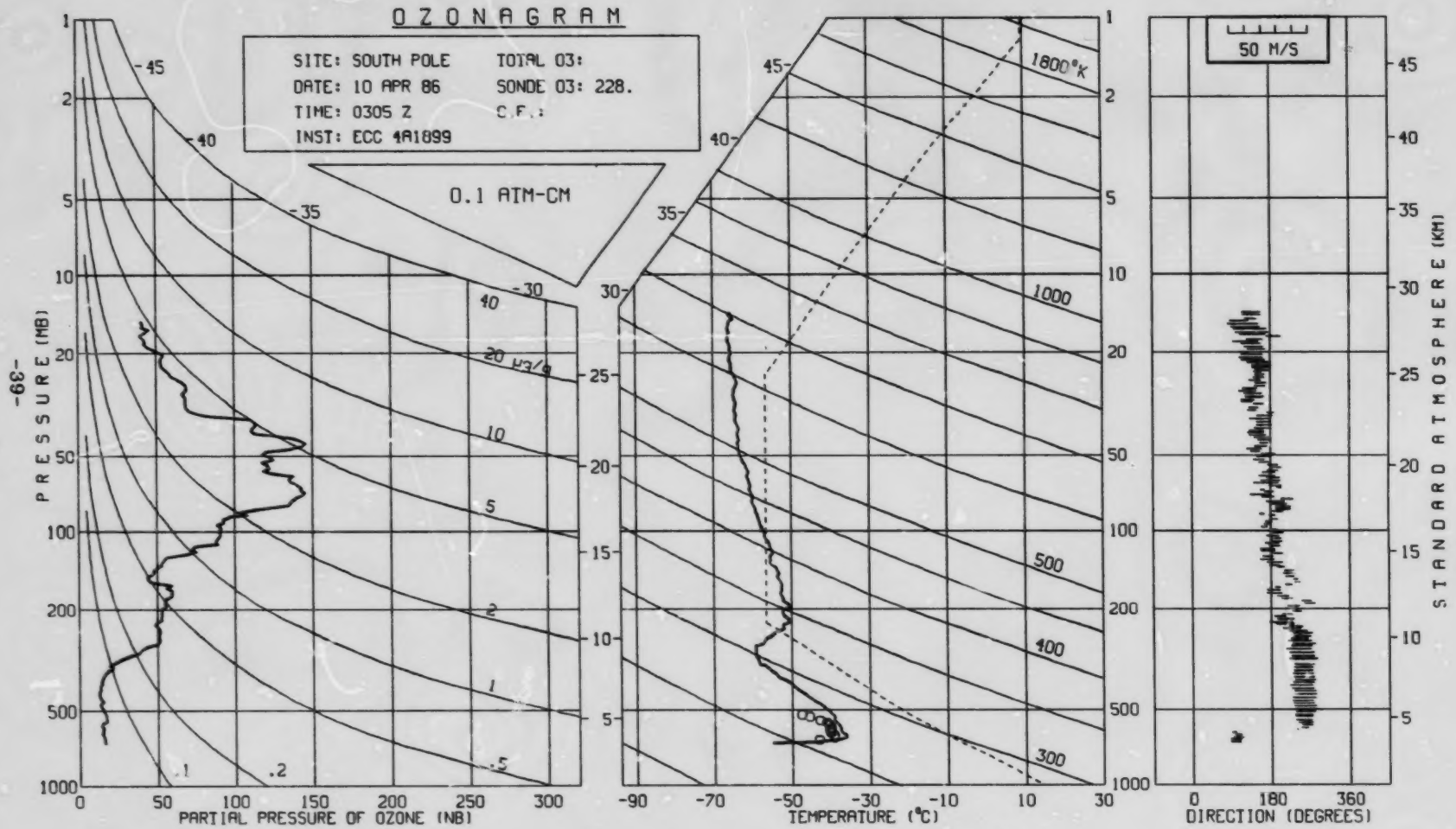
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.2	20.1	59.3	125.8	110.2	61.9	23.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110120038603           99        ECC    TOTAL O3 FROM SONDE DATA  238
ISNNNYYMMJJGG  PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110220038603   687 14-56       500 12-39139 15 300 21-57142 30 200 52-51110  2
1110320038603   150 67-51291  4 100120-51187  3  70145-52103  5  50104-53106  5
1110420038603    30 94-53 31  420.0 54-53 72  210.0 22-49304  1 7.0 17-48 64  4
1110520038603   5.0 12-45121  4 668 12-39107  6 634 12-33115  6 336  9-54142 32
1110620038603   266 55-56142 22 214 49-50147  6 188 46-52139 16 167 59-49140 11
1110720038603   156 54-50140  1 141 66-51132 11 128 89-50 83  5 115 90-51 -1  2
1110820038603    59148-53 89  5  48 99-53123  5  46108-53111  7  45 93-53108  8
1110920038603    41 88-53 91  8  40113-53116  7  38116-53 79  6  35 87-53 -1  5
1111020038603    32104-53 83  522.9 58-55101  915.0 29-52 86  611.7 24-52117  4
1111120038603   7.9 20-51127  3 4.6 12-45313  6
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 10 APR 86 305 Z ECC SONDE: 4A1899
SURFACE CONDITIONS: PRESSURE 681.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 74.3 ORD;
O3 ORD ZERO 32.9, BKGND 33.0, CAL 71.1; O3 BKGND .014 MICROAMP; FLOW RATE 28.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 228.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	681.0	2800	16.3	.024	43.3	.0000	-55.3			243.2		
1	673.0	2877	16.2	.024	40.9	.0002	-44.1			256.5	6.3	97.
2	659.0	3019	15.7	.024	38.7	.0004	-38.6	-43.4	61.3	264.3	6.3	97.
3	645.0	3167	15.7	.024	38.3	.0007	-36.4	-39.5	74.7	268.3	5.8	103.
4	631.0	3319	15.3	.024	37.2	.0010	-36.4	-39.5	74.7	270.0	4.2	103.
5	617.0	3474	14.3	.023	35.1	.0012	-37.4	-40.4	74.4	270.7	2.5	93.
6	601.0	3655	14.8	.025	36.3	.0015	-37.8	-40.6	76.5	272.2	.7	239.
7	588.0	3805	15.2	.026	37.4	.0018	-37.8	-40.3	78.6	273.9	4.4	256.
8	573.5	3977	13.8	.024	33.9	.0021	-38.2	-40.8	78.0	275.4	6.9	262.
9	561.0	4128	14.7	.026	36.2	.0023	-38.9	-41.4	78.0	276.4	9.1	258.
10	548.5	4282	17.4	.032	42.9	.0026	-39.5	-43.2	69.4	277.4	10.2	253.
11	530.0	4516	16.8	.032	41.5	.0031	-39.4	-45.8	51.6	280.3	10.7	253.
12	521.5	4626	16.9	.032	41.7	.0033	-39.8	-47.9	42.4	281.1	11.2	254.
13	510.0	4778	15.9	.031	39.6	.0036	-40.6			281.9	12.4	257.
14	497.5	4946	15.0	.030	37.4	.0039	-41.3			283.0	13.3	258.
15	485.0	5118	13.6	.028	34.1	.0041	-42.3			283.9	13.9	257.
16	472.0	5301	13.2	.028	33.1	.0044	-43.2			284.9	13.3	254.
17	461.0	5459	15.0	.033	37.9	.0047	-44.5			285.3	13.2	251.
18	449.0	5635	13.1	.029	33.3	.0050	-45.6			286.0	14.3	255.
19	436.0	5830	12.6	.029	32.2	.0053	-46.9			286.8	14.0	257.
20	424.0	6014	12.6	.030	32.3	.0056	-48.1			287.6	13.5	256.
21	414.0	6170	13.5	.033	34.7	.0058	-49.1			288.3	13.9	251.
22	402.5	6354	13.0	.032	33.7	.0061	-50.0			289.4	14.3	248.
23	392.5	6518	14.3	.036	37.0	.0064	-50.6			290.7	13.6	253.
24	382.5	6685	14.3	.037	37.2	.0067	-52.0			291.1	12.9	257.
25	372.5	6855	14.7	.039	38.7	.0070	-53.7			291.0	13.0	254.
26	361.5	7047	16.0	.044	42.3	.0073	-54.2			292.9	12.7	252.
27	352.0	7217	17.8	.051	47.1	.0077	-55.6			293.2	12.0	252.
28	343.0	7381	21.2	.062	56.4	.0081	-56.4			294.2	11.7	252.
29	334.5	7539	21.1	.063	56.5	.0085	-57.2			295.2	6.9	256.
30	334.0	7548	19.8	.059	53.1	.0085	-58.4			293.7	12.4	255.
31	317.0	7876	26.2	.083	70.5	.0095	-58.8			297.7	18.0	253.
32	309.0	8036	31.2	.101	84.3	.0101	-59.5			298.9	14.1	252.
33	300.0	8221	37.8	.126	102.2	.0109	-59.5			301.4	15.8	249.
34	290.0	8433	40.6	.140	109.8	.0119	-59.5			304.4	15.8	242.
35	283.0	8585	43.4	.153	117.1	.0127	-59.5			306.5	12.9	249.
36	278.0	8697	49.3	.177	132.0	.0134	-57.6			310.8	14.5	254.
37	271.0	8858	51.5	.190	137.8	.0144	-57.2			313.5	15.5	244.
38	264.0	9023	51.7	.196	137.8	.0155	-56.6			316.9	10.8	244.
39	259.5	9132	51.3	.198	136.1	.0162	-55.6			319.9	10.8	251.
40	252.0	9319	51.1	.203	135.1	.0173	-54.6			324.0	11.6	252.
41	248.0	9421	52.0	.210	136.9	.0180	-53.8			326.7	11.7	240.
42	242.0	9578	51.4	.212	134.3	.0190	-52.1			331.5	11.5	226.
43	238.0	9685	50.2	.211	131.3	.0197	-52.4			332.6	8.9	236.
44	232.0	9850	48.5	.209	126.8	.0206	-52.3			335.3	11.3	212.
45	227.5	9977	49.6	.218	128.7	.0214	-50.9			339.3	14.4	202.
46	221.0	10165	53.1	.240	137.8	.0226	-50.9			342.1	10.5	213.
47	215.2	10337	52.6	.244	137.4	.0237	-52.0			343.1	7.2	200.
48	211.0	10464	53.0	.251	138.5	.0245	-52.3			344.5	6.2	218.
49	204.5	10666	52.9	.259	138.4	.0258	-52.6			347.1	6.0	238.

STATION: SOUTH POLE LAUNCH DATE: 10 APR 86 305 Z ECC SONDE. 4A1899

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	199.2	10835	53.1	.267	138.5	.0269	-51.8			351.0	6.7	227.
51	194.8	10980	56.0	.287	145.2	.0279	-50.4			355.4	7.4	231.
52	190.4	11128	54.9	.288	142.9	.0289	-51.2			356.5	6.8	268.
53	186.0	11279	55.2	.297	144.4	.0299	-52.4			356.9	5.9	261.
54	181.7	11430	55.8	.307	146.0	.0309	-52.4			359.3	7.0	216.
55	177.3	11588	59.5	.336	155.9	.0320	-52.7			361.3	7.3	207.
56	173.0	11746	59.7	.345	156.7	.0332	-53.1			363.4	9.5	188.
57	168.7	11908	59.8	.354	156.5	.0344	-52.7			366.5	8.1	186.
58	165.0	12051	56.4	.342	147.8	.0354	-52.9			368.6	3.0	196.
59	161.2	12201	59.0	.366	154.5	.0365	-52.7			371.3	3.9	220.
60	157.3	12359	46.0	.292	120.7	.0375	-52.9			373.6	3.2	241.
61	153.5	12516	44.4	.289	116.7	.0383	-53.4			375.5	2.3	236.
62	149.6	12681	44.1	.295	116.2	.0392	-54.0			377.1	5.3	223.
63	145.7	12850	47.6	.327	125.0	.0402	-53.4			381.1	7.0	221.
64	142.2	13006	48.3	.340	127.2	.0411	-53.8			382.9	5.9	221.
65	138.0	13198	50.8	.368	134.1	.0423	-54.3			385.4	4.3	202.
66	135.6	13310	52.9	.390	140.3	.0430	-55.3			385.6	6.2	188.
67	132.3	13467	53.2	.402	141.2	.0440	-55.8			387.5	9.9	189.
68	129.0	13627	54.6	.423	145.0	.0451	-55.6			390.6	8.5	171.
69	125.7	13792	56.5	.449	150.0	.0462	-55.8			393.2	6.5	173.
70	122.6	13951	68.9	.562	182.6	.0475	-55.1			397.2	7.0	194.
71	119.7	14103	75.1	.627	198.7	.0488	-55.1			399.9	8.9	173.
72	117.1	14243	72.6	.620	192.6	.0501	-55.6			401.5	9.1	172.
73	114.4	14391	74.5	.651	197.9	.0515	-55.8			403.9	6.5	189.
74	112.0	14525	89.3	.797	237.3	.0528	-55.9			406.0	8.8	183.
75	109.6	14662	87.9	.802	233.9	.0544	-56.1			408.3	7.0	193.
76	107.1	14808	88.9	.830	237.4	.0560	-56.9			409.4	5.1	194.
77	104.6	14957	90.6	.856	242.1	.0576	-57.1			411.9	7.8	185.
78	102.1	15110	90.9	.890	243.1	.0594	-57.2			414.4	6.3	196.
79	99.5	15272	90.3	.908	242.1	.0612	-57.8			416.5	3.8	187.
80	97.0	15432	91.6	.944	245.5	.0630	-57.8			419.5	3.5	165.
81	95.0	15563	89.2	.939	239.6	.0645	-58.3			421.0	4.3	173.
82	92.9	15703	93.1	1.002	250.2	.0661	-58.4			423.4	4.4	176.
83	90.7	15853	92.6	1.021	249.3	.0679	-58.6			426.0	5.2	187.
84	87.5	16078	98.0	1.120	264.1	.0706	-58.9			429.7	3.8	183.
85	86.6	16142	107.4	1.240	289.4	.0714	-58.9			430.9	3.0	160.
86	84.6	16288	103.9	1.228	280.8	.0734	-59.5			432.8	6.8	197.
87	82.6	16437	112.0	1.356	302.5	.0754	-59.5			435.7	9.1	208.
88	80.7	16582	124.3	1.540	336.1	.0776	-59.6			438.3	9.0	208.
89	78.9	16722	134.9	1.710	365.5	.0799	-60.0			440.4	10.6	198.
90	77.0	16874	135.8	1.764	368.6	.0825	-60.3			442.7	11.8	190.
91	75.1	17029	137.9	1.836	373.8	.0852	-60.2			446.3	7.3	218.
92	73.3	17180	139.6	1.905	378.8	.0879	-60.3			449.0	7.7	174.
93	71.8	17308	143.0	1.992	387.7	.0902	-60.2			452.0	13.2	157.
94	70.0	17466	144.8	2.069	393.6	.0930	-60.7			454.2	5.7	176.
95	68.6	17591	142.7	2.080	388.2	.0953	-60.9			456.4	2.4	161.
96	67.2	17719	142.7	2.124	388.2	.0977	-60.9			459.1	3.1	199.
97	65.8	17849	141.2	2.146	383.8	.1000	-60.7			462.3	7.7	191.
98	64.2	18002	138.2	2.153	375.8	.1027	-60.9			465.2	15.3	169.
99	62.8	18139	135.4	2.156	368.7	.1051	-61.1			467.7	12.2	180.
100	61.3	18289	135.1	2.204	368.3	.1077	-61.4			470.2	8.5	186.
101	59.9	18432	137.5	2.295	375.2	.1102	-61.6			472.9	9.9	171.
102	58.3	18599	122.7	2.105	334.2	.1129	-61.2			477.3	8.0	176.
103	57.1	18728	119.0	2.084	324.1	.1149	-61.2			480.2	7.1	185.
104	55.8	18870	122.2	2.190	333.9	.1171	-61.8			482.1	7.0	191.

STATION: SOUTH POLE LAUNCH DATE: 10 APR 86 305 Z ECC SONDE: 4A1899

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	54.4	19027	121.3	2.230	331.7	.1196	-62.0			485.2	6.5	184.
106	53.2	19164	118.2	2.222	324.1	.1217	-62.5			487.0	6.1	164.
107	52.0	19304	124.8	2.400	342.7	.1239	-62.9			489.4	7.2	153.
108	50.7	19459	123.0	2.426	338.1	.1263	-63.1			492.5	8.4	164.
109	49.5	19606	117.6	2.376	323.7	.1286	-63.5			495.0	8.1	175.
110	48.3	19756	120.0	2.484	330.6	.1309	-63.6			498.0	5.6	145.
111	47.2	19897	134.9	2.858	372.1	.1332	-63.8			500.8	9.1	142.
112	46.1	20041	143.1	3.104	394.6	.1358	-63.8			504.2	7.7	158.
113	44.9	20202	145.4	3.238	401.3	.1388	-64.0			507.6	5.0	165.
114	43.9	20340	142.1	3.237	391.5	.1414	-63.6			511.8	8.6	166.
115	42.9	20481	137.7	3.210	379.9	.1439	-63.8			514.7	9.8	160.
116	41.9	20625	125.4	2.993	346.2	.1464	-64.0			517.7	10.5	150.
117	41.1	20743	113.4	2.759	313.2	.1482	-64.0			520.6	10.3	146.
118	40.2	20878	110.7	2.754	305.3	.1501	-63.8			524.3	9.0	149.
119	39.3	21016	111.6	2.840	307.5	.1521	-63.6			528.2	9.5	160.
120	38.3	21174	113.4	2.961	313.0	.1544	-64.0			531.2	9.2	166.
121	37.3	21335	113.0	3.029	312.6	.1568	-64.4			534.2	8.3	163.
122	36.3	21501	109.8	3.025	304.1	.1592	-64.6			537.9	12.6	155.
123	35.3	21671	81.8	2.317	226.3	.1613	-64.4			542.7	10.0	167.
124	34.5	21811	75.7	2.194	209.4	.1627	-64.4			546.2	4.7	180.
125	33.7	21954	71.0	2.107	196.7	.1641	-64.8			548.9	5.5	138.
126	32.9	22100	69.1	2.100	191.4	.1654	-64.6			553.2	5.9	142.
127	32.0	22269	68.8	2.150	190.4	.1669	-64.4			558.1	6.3	153.
128	31.4	22384	68.7	2.138	190.0	.1679	-64.4			561.1	6.4	126.
129	31.0	22462	68.7	2.216	190.3	.1686	-64.8			562.1	8.0	129.
130	30.3	22661	68.7	2.267	190.4	.1699	-64.8			565.8	10.3	143.
131	30.0	22661	68.7	2.290	190.6	.1704	-65.0			566.9	11.4	144.
132	29.2	22825	66.3	2.271	184.0	.1718	-65.0			571.3	11.4	140.
133	28.6	22951	68.3	2.388	189.4	.1729	-64.8			575.2	10.7	128.
134	28.0	23080	69.2	2.471	191.7	.1741	-64.8			578.7	8.7	133.
135	27.3	23234	69.5	2.546	192.2	.1755	-64.4			584.0	6.9	156.
136	26.6	23392	68.1	2.560	187.9	.1769	-64.0			589.5	7.3	158.
137	26.0	23531	65.3	2.512	180.4	.1781	-64.2			592.8	7.3	145.
138	25.3	23697	61.8	2.443	171.1	.1794	-64.6			596.3	7.0	154.
139	24.7	23843	59.1	2.393	163.6	.1806	-64.8			599.8	5.7	155.
140	24.1	23992	58.3	2.419	162.2	.1817	-65.6			601.8	4.7	150.
141	23.7	24093	56.5	2.384	157.3	.1825	-65.6			604.7	8.6	162.
142	23.1	24248	55.2	2.390	153.5	.1836	-65.6			609.1	11.4	158.
143	22.6	24381	53.0	2.345	147.3	.1846	-65.6			612.9	12.5	160.
144	22.0	24544	53.3	2.423	148.2	.1857	-65.6			617.7	14.3	154.
145	21.5	24683	52.5	2.442	146.3	.1866	-66.0			620.5	14.7	141.
146	21.0	24825	53.2	2.533	148.2	.1876	-66.0			624.7	14.9	136.
147	20.4	25000	54.6	2.676	151.9	.1889	-65.8			630.5	13.8	138.
148	20.0	25120	53.2	2.660	147.8	.1897	-65.4			635.3	13.5	144.
149	19.4	25305	48.3	2.490	134.7	.1909	-66.0			639.0	11.1	148.
150	19.0	25431	44.8	2.358	124.8	.1917	-65.8			643.5	12.1	142.
151	18.4	25625	42.2	2.293	117.7	.1928	-66.0			648.8	12.1	136.
152	18.1	25724	43.0	2.376	119.9	.1933	-66.4			650.6	15.9	123.
153	17.8	25825	42.6	2.393	119.0	.1939	-66.4			653.7	9.9	144.
154	17.3	25997	40.2	2.324	112.2	.1948	-66.4			659.0	9.2	187.
155	17.0	26102	40.2	2.365	112.3	.1954	-66.4			662.3	16.5	140.
156	16.7	26209	42.7	2.557	119.0	.1960	-66.0			667.0	20.9	138.
157	16.2	26393	45.4	2.802	126.8	.1970	-66.4			671.5	20.9	134.
158	15.9	26506	40.9	2.572	114.1	.1977	-66.4			675.1	18.0	123.
159	15.5	26660	41.5	2.677	115.8	.1985	-66.2			680.7	19.5	117.

STATION: SOUTH POLE LAUNCH DATE: 10 APR 86 305 Z ECC SONDE: 4A1899

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
160	15.1	26818	40.8	2.702	113.6	.1993	-66.0			686.5	11.7	109.
161	14.8	26940	0.0	0.000	0.0	.1997	-65.8			693.7	7.1	135.
162	14.3	27148	0.0	0.000	0.0	.1997	-66.2			696.6	11.4	137.
163	14.0	27276	0.0	0.000	0.0	.1997	-65.6			702.8	11.4	137.

UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

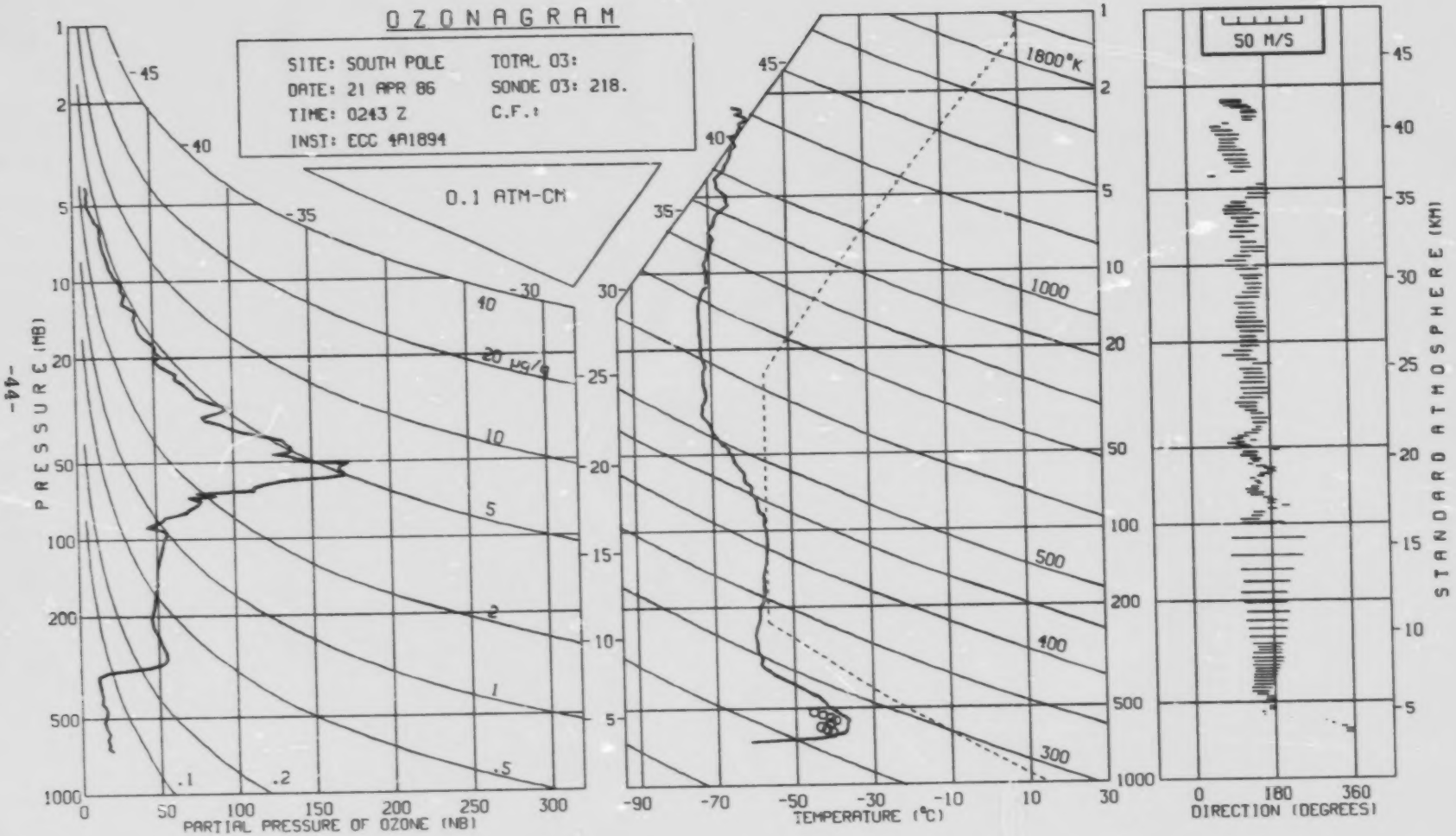
SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
15.6	25.3	52.8	108.0	114.3	54.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110110048603	99	ECC	TOTAL O3 FROM SONDE DATA 228		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110210048603	681 16-55	500 15-41258	13 300 38-60249	16 200 53-52229	7
1110310048603	150 44-54224	5 100 90-58189	4 70145-61176	6 50120-63170	8
1110410048603	30 69-65144	1120.0 53-65144	14 673 16-44 97	6 659 16-39 97	6
1110510048603	645 16-36103	6 334 20-58255	12 283 43-60249	13 271 52-57244	16
1110610048603	228 50-51202	14 195 56-50231	7 161 59-53220	4 157 46-53241	3
1110710048603	126 57-56173	7 120 75-55173	9 114 75-56189	7 112 89-56183	9
1110810048603	88 98-59183	4 87107-59160	3 83112-60208	9 79135-60198	11
1110910048603	60138-62171	10 57119-61185	7 48120-64145	6 47135-64142	9
1111010048603	45145-64165	5 43138-64160	10 41113-64146	10 36110-65155	13
1111110048603	35 82-64167	10 34 71-65138	618.4 42-66136	1215.1 41-66109	12
1111210048603	14.8 0-65135	714.0 0-66137	11		

BLANK PAGE



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 21 APR 86 243 Z ECC SONDE: 4A1894
SURFACE CONDITIONS: PRESSURE 681.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.8 ORD;
O3 ORD ZERO 32.4, BKGND 32.7, CAL 73.3; O3 BKGND .039 MICROAMP; FLOW RATE 28.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 218.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	681.5	2800	19.2	.028	52.5	.0000	-61.8			235.8		
1	663.0	2977	16.5	.025	41.6	.0004	-43.8			257.9	4.4	349.
2	647.0	3142	17.4	.027	43.2	.0007	-40.9			263.0	4.4	349.
3	630.0	3324	17.0	.027	41.7	.0011	-37.6	-40.8	73.7	268.8	3.5	337.
4	612.5	3518	16.1	.026	39.3	.0014	-37.2	-42.3	60.2	271.4	1.6	311.
5	598.0	3683	16.8	.028	41.1	.0018	-37.0	-43.9	49.4	273.6	.7	294.
6	580.5	3888	17.7	.030	43.4	.0022	-37.0	-41.4	64.3	275.9	.1	213.
7	564.0	4087	16.3	.029	39.9	.0025	-36.6	-40.0	72.2	278.6	1.4	154.
8	549.5	4267	15.5	.028	37.9	.0029	-37.4	-41.4	67.4	279.8	2.3	153.
9	534.0	4464	15.1	.028	37.1	.0032	-38.6	-43.4	61.6	280.6	3.5	172.
10	519.5	4652	14.2	.027	35.1	.0035	-39.7	-45.6	54.3	281.5	4.3	173.
11	503.0	4872	15.0	.030	37.4	.0039	-41.0			282.5	4.2	157.
12	490.0	5049	15.4	.031	38.5	.0042	-42.1			283.3	4.8	167.
13	477.5	5223	16.0	.034	40.0	.0045	-42.4			285.0	5.6	170.
14	464.0	5416	15.9	.034	40.0	.0049	-43.4			286.2	7.3	152.
15	450.0	5621	15.0	.033	37.8	.0053	-44.1			287.8	10.5	147.
16	436.5	5824	12.8	.029	32.4	.0056	-45.9			288.0	12.9	150.
17	422.0	6048	13.6	.032	34.8	.0060	-47.5			288.7	13.7	156.
18	409.5	6246	13.5	.033	34.8	.0063	-49.0			289.3	13.6	155.
19	397.0	6448	13.0	.033	33.8	.0066	-50.6			289.8	14.1	157.
20	386.5	6622	12.6	.033	32.9	.0069	-52.3			289.8	14.6	159.
21	376.0	6799	12.3	.033	32.3	.0071	-53.8			290.0	14.5	160.
22	367.0	6954	11.8	.032	31.3	.0074	-55.3			290.1	16.1	163.
23	354.0	7183	11.4	.032	30.3	.0077	-56.7			291.2	17.5	161.
24	343.0	7382	11.4	.033	30.5	.0080	-58.1			292.0	18.5	166.
25	331.5	7596	17.8	.054	47.8	.0084	-58.8			293.9	19.7	165.
26	319.0	7837	43.2	.135	116.1	.0093	-58.4			297.6	17.7	164.
27	311.0	7996	51.3	.165	138.0	.0103	-58.6			299.5	14.9	170.
28	303.0	8159	54.0	.178	145.7	.0113	-59.3			300.8	15.0	167.
29	293.0	8369	55.5	.189	150.0	.0128	-59.6			303.2	19.7	156.
30	275.5	8754	54.8	.199	148.2	.0155	-59.6			308.6	23.2	165.
31	257.0	9188	52.0	.202	140.9	.0184	-60.0			314.3	24.5	166.
32	239.5	9628	50.4	.210	136.3	.0212	-59.5			321.5	26.1	164.
33	221.5	10117	46.8	.211	126.0	.0242	-58.8			329.8	27.0	168.
34	204.0	10633	46.0	.225	123.9	.0273	-58.8			337.6	27.1	163.
35	186.1	11211	47.8	.257	128.1	.0307	-57.6			348.5	29.3	159.
36	168.2	11849	48.9	.291	130.8	.0345	-57.4			359.0	29.7	166.
37	150.0	12572	50.3	.335	134.8	.0390	-57.6			370.7	34.0	168.
38	131.4	13409	50.2	.382	134.0	.0442	-56.9			386.2	45.4	168.
39	113.0	14365	52.9	.468	140.9	.0504	-56.6			403.8	46.8	172.
40	99.0	15203	55.4	.560	147.8	.0560	-56.7			419.0	26.2	161.
41	95.8	15411	57.3	.598	153.2	.0575	-57.2			422.0	12.2	130.
42	92.8	15612	54.6	.588	146.1	.0589	-57.2			425.9	7.1	146.
43	89.9	15812	44.6	.496	119.3	.0601	-57.2			429.7	7.0	152.
44	87.2	16004	50.7	.581	135.6	.0613	-57.2			433.5	5.9	182.
45	84.9	16172	54.4	.641	146.4	.0624	-58.6			434.1	4.5	213.
46	82.9	16321	55.7	.672	150.0	.0634	-58.6			437.0	5.2	180.
47	81.0	16466	63.3	.781	170.7	.0645	-58.9			439.2	5.9	182.
48	79.2	16606	69.4	.876	187.0	.0657	-58.9			442.1	6.0	172.
49	77.3	16758	71.3	922	192.2	.0670	-58.9			445.2	7.9	148.

STATION: SOUTH POLE LAUNCH DATE: 21 APR 86 243 Z ECC SONDE: 4A1894

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	75.6	16897	74.5	.985	201.1	.0683	-59.3			447.3	10.8	145.
51	73.9	17039	77.5	1.049	209.6	.0697	-59.6			449.4	8.2	137.
52	72.1	17192	78.7	1.092	213.9	.0712	-60.7			450.4	5.4	144.
53	70.2	17358	72.4	1.031	196.4	.0728	-60.3			454.6	2.7	154.
54	68.7	17492	86.8	1.263	235.2	.0742	-60.2			457.8	3.4	148.
55	67.1	17638	78.2	1.165	212.6	.0757	-60.9			459.3	3.4	139.
56	65.7	17768	113.2	1.723	309.3	.0773	-61.8			460.1	4.3	157.
57	64.2	17910	112.9	1.759	308 8	.0793	-62.0			462.8	7.7	169.
58	62.8	18046	117.5	1.871	321.5	.0813	-62.2			465.3	5.4	182.
59	61.2	18205	125.9	2.057	344.2	.0838	-62.0			469.2	7.0	179.
60	59.9	18337	134.6	2.247	368.6	.0860	-62.3			471.2	6.9	157.
61	58.6	18472	158.9	2.712	436.3	.0886	-62.9			472.9	3.3	134.
62	57.2	18620	170.8	2.986	469.9	.0917	-63.3			475.4	4.0	147.
63	55.7	18783	170.3	3.057	470.0	.0953	-64.0			477.2	7.1	146.
64	54.0	18972	167.2	3.096	462.6	.0994	-64.4			480.6	9.9	130.
65	52.4	19155	168.4	3.214	466.6	.1034	-64.8			483.9	9.5	134.
66	51.1	19308	172.3	3.372	477.9	.1068	-65.0			486.9	3.6	194.
67	50.8	19343	163.9	3.226	454.6	.1076	-65.0			487.7	2.4	189.
68	50.3	19403	147.4	2.930	408.7	.1088	-65.0			489.1	4.2	106.
69	49.9	19451	149.7	3.000	416.3	.1097	-65.6			488.8	5.9	108.
70	49.2	19536	145.1	2.949	404.1	.1114	-65.8			490.3	7.3	121.
71	48.7	19598	138.4	2.842	385.7	.1125	-66.0			491.3	5.9	114.
72	48.1	19673	138.7	2.884	386.8	.1139	-66.2			492.5	8.0	97.
73	47.4	19761	134.1	2.829	373.7	.1154	-66.0			495.1	5.0	112.
74	46.9	19825	127.1	2.710	355.2	.1165	-66.6			495.1	3.9	141.
75	46.3	19902	132.2	2.855	370.2	.1178	-67.0			496.0	4.4	100.
76	45.9	19954	135.2	2.946	379.9	.1188	-67.6			495.7	4.3	110.
77	45.0	20073	137.4	3.053	386.3	.1209	-67.8			498.0	6.9	119.
78	43.9	20221	136.6	3.112	385.2	.1236	-68.5			500.0	9.3	137.
79	42.7	20386	133.6	3.128	377.5	.1265	-68.9			502.9	5.9	148.
80	41.4	20570	131.7	3.181	373.9	.1298	-69.8			505.2	3.2	153.
81	40.1	20759	121.3	3.025	345.2	.1329	-70.2			508.7	8.8	156.
82	38.5	21000	105.7	2.745	301.4	.1366	-70.7			513.5	11.6	158.
83	36.9	21251	97.0	2.629	277.8	.1400	-71.6			517.5	8.4	151.
84	35.8	21429	92.3	2.578	265.6	.1422	-72.5			519.5	7.8	137.
85	34.7	21612	82.3	2.372	237.1	.1444	-72.8			523.6	11.0	130.
86	33.7	21783	80.6	2.392	231.9	.1463	-72.5			528.6	14.1	127.
87	32.3	22032	91.6	2.836	263.5	.1492	-72.5			535.0	14.6	138.
88	31.0	22273	97.8	3.155	280.3	.1522	-71.8			543.2	16.1	149.
89	29.6	22545	85.9	2.902	246.0	.1556	-71.6			551.1	17.0	145.
90	28.2	22830	76.3	2.706	218.7	.1587	-71.8			558.1	15.6	141.
91	27.1	23064	74.3	2.742	213.5	.1610	-72.3			563.2	13.8	147.
92	26.1	23285	71.8	2.751	206.3	.1632	-72.3			569.3	12.9	144.
93	25.1	23514	68.6	2.733	197.1	.1654	-72.3			575.7	14.2	138.
94	24.1	23753	63.4	2.631	182.2	.1675	-72.3			582.4	11.8	164.
95	23.2	23977	64.1	2.763	183.7	.1694	-71.6			590.8	13.1	129.
96	22.4	24183	59.1	2.638	169.8	.1711	-72.0			595.4	17.3	105.
97	21.5	24424	53.9	2.507	155.2	.1729	-72.5			601.0	11.8	122.
98	20.6	24675	50.6	2.456	145.7	.1747	-72.8			607.7	11.6	137.
99	19.7	24937	54.4	2.761	156.9	.1765	-72.8			615.5	10.3	136.
100	19.0	25149	50.9	2.679	146.5	.1781	-72.8			621.9	10.8	133.
101	18.1	25433	51.2	2.829	147.4	.1800	-72.8			630.5	14.9	143.
102	17.3	25698	47.6	2.751	137.2	.1818	-73.0			638.0	18.4	141.
103	16.6	25940	43.7	2.633	126.0	.1833	-73.0			645.6	17.4	137.
104	15.9	26192	41.2	2.591	118.9	.1847	-73.0			653.5	12.6	131.

STATION: SOUTH POLE LAUNCH DATE: 21 APR 86 243 Z ECC SONDE: 4A1894

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	15.2	26455	39.7	2.612	114.8	.1861	-73.2			661.2	10.5	133.
106	14.5	26731	39.0	2.690	112.8	.1876	-73.2			670.2	10.8	132.
107	13.9	26978	37.6	2.705	108.6	.1889	-73.2			678.3	12.8	126.
108	13.2	27280	39.4	2.985	113.7	.1904	-73.2			688.4	14.8	134.
109	12.7	27506	35.4	2.787	102.0	.1916	-72.8			697.7	10.9	142.
110	12.2	27741	30.3	2.484	87.2	.1926	-72.5			706.6	9.4	150.
111	11.7	27987	31.4	2.684	90.1	.1936	-72.0			716.8	10.8	147.
112	11.2	28245	32.1	2.866	91.6	.1947	-70.9			730.0	9.9	142.
113	10.9	28405	29.8	2.734	85.0	.1954	-70.9			735.6	13.9	143.
114	10.3	28740	29.8	2.893	85.1	.1967	-70.9			747.6	16.5	136.
115	9.9	28950	28.0	2.817	79.9	.1975	-71.1			754.4	15.9	122.
116	9.5	29192	25.4	2.662	72.7	.1984	-71.3			762.5	13.3	109.
117	9.2	29432	24.0	2.620	68.7	.1992	-71.6			770.5	11.1	123.
118	8.8	29669	22.5	2.557	64.2	.1999	-70.9			782.0	15.4	147.
119	8.4	29916	21.8	2.583	62.1	.2007	-70.7			792.3	16.2	150.
120	8.1	30167	20.7	2.559	58.9	.2014	-69.8			805.5	10.2	138.
121	7.7	30430	19.3	2.494	54.7	.2021	-69.8			815.7	9.3	112.
122	7.4	30689	18.5	2.497	52.3	.2027	-69.1			828.6	15.3	124.
123	7.1	30977	17.7	2.507	50.4	.2034	-70.2			835.6	15.5	135.
124	6.8	31208	17.0	2.504	48.2	.2040	-70.0			845.9	7.4	125.
125	6.5	31431	17.3	2.645	49.1	.2045	-69.1			858.7	14.2	125.
126	6.3	31664	16.9	2.687	47.8	.2050	-68.7			870.2	22.4	124.
127	6.1	31897	16.6	2.744	46.8	.2055	-68.5			880.8	18.5	115.
128	5.8	32109	13.8	2.363	38.9	.2059	-67.8			892.5	12.9	109.
129	5.6	32319	13.1	2.323	36.5	.2063	-66.6			906.9	9.6	117.
130	5.4	32583	11.5	2.130	31.8	.2067	-65.0			925.3	13.5	158.
131	5.2	32847	10.3	1.992	28.6	.2071	-65.6			934.2	14.1	164.
132	4.9	33123	8.7	1.761	24.3	.2074	-65.6			946.5	11.3	157.
133	4.8	33335	9.2	1.929	25.6	.2077	-66.8			950.4	5.4	168.
134	4.6	33566	8.8	1.917	24.7	.2080	-68.0			955.1	3.0	352.
135	4.4	33792	9.6	2.172	26.9	.2082	-67.8			966.4	4.5	57.
136	4.2	34041	8.4	1.981	23.6	.2085	-68.3			976.0	9.0	118.
137	4.1	34257	0.0	0.000	0.0	.2086	-67.2			991.1	10.9	128.
138	3.9	34483	0.0	0.000	0.0	.2086	-66.0			1007.7	13.4	120.
139	3.8	34686	0.0	0.000	0.0	.2086	-65.8			1018.4	14.1	113.
140	3.7	34913	0.0	0.000	0.0	.2086	-65.0			1033.3	15.8	111.
141	3.5	35150	0.0	0.000	0.0	.2086	-64.4			1047.7	17.4	104.
142	3.4	35343	0.0	0.000	0.0	.2086	-64.2			1058.2	13.2	98.
143	3.3	35561	0.0	0.000	0.0	.2086	-64.0			1070.1	9.8	93.
144	3.2	35769	0.0	0.000	0.0	.2086	-62.9			1086.4	11.9	97.
145	3.1	36005	0.0	0.000	0.0	.2086	-63.1			1097.3	15.0	94.
146	3.0	36208	0.0	0.000	0.0	.2086	-64.0			1102.8	13.0	82.
147	2.9	36418	0.0	0.000	0.0	.2086	-62.0			1124.6	7.2	67.
148	2.8	36592	0.0	0.000	0.0	.2086	-62.0			1133.7	3.7	91.
149	2.7	36795	0.0	0.000	0.0	.2086	-61.4			1147.3	6.5	141.
150	2.6	36957	0.0	0.000	0.0	.2086	-61.8			1154.0	9.2	144.
151	2.5	37173	0.0	0.000	0.0	.2086	-60.0			1175.4	10.4	144.
152	2.5	37297	0.0	0.000	0.0	.2086	-60.0			1182.1	8.7	143.
153	2.4	37473	0.0	0.000	0.0	.2086	-62.5			1177.7	12.7	127.
154	2.4	37576	0.0	0.000	0.0	.2086	-61.1			1191.5	15.0	114.
155	2.3	37734	0.0	0.000	0.0	.2086	-61.2			1199.2	13.2	104.
156	2.3	37841	0.0	0.000	0.0	.2086	-63.6			1191.5	13.2	104.

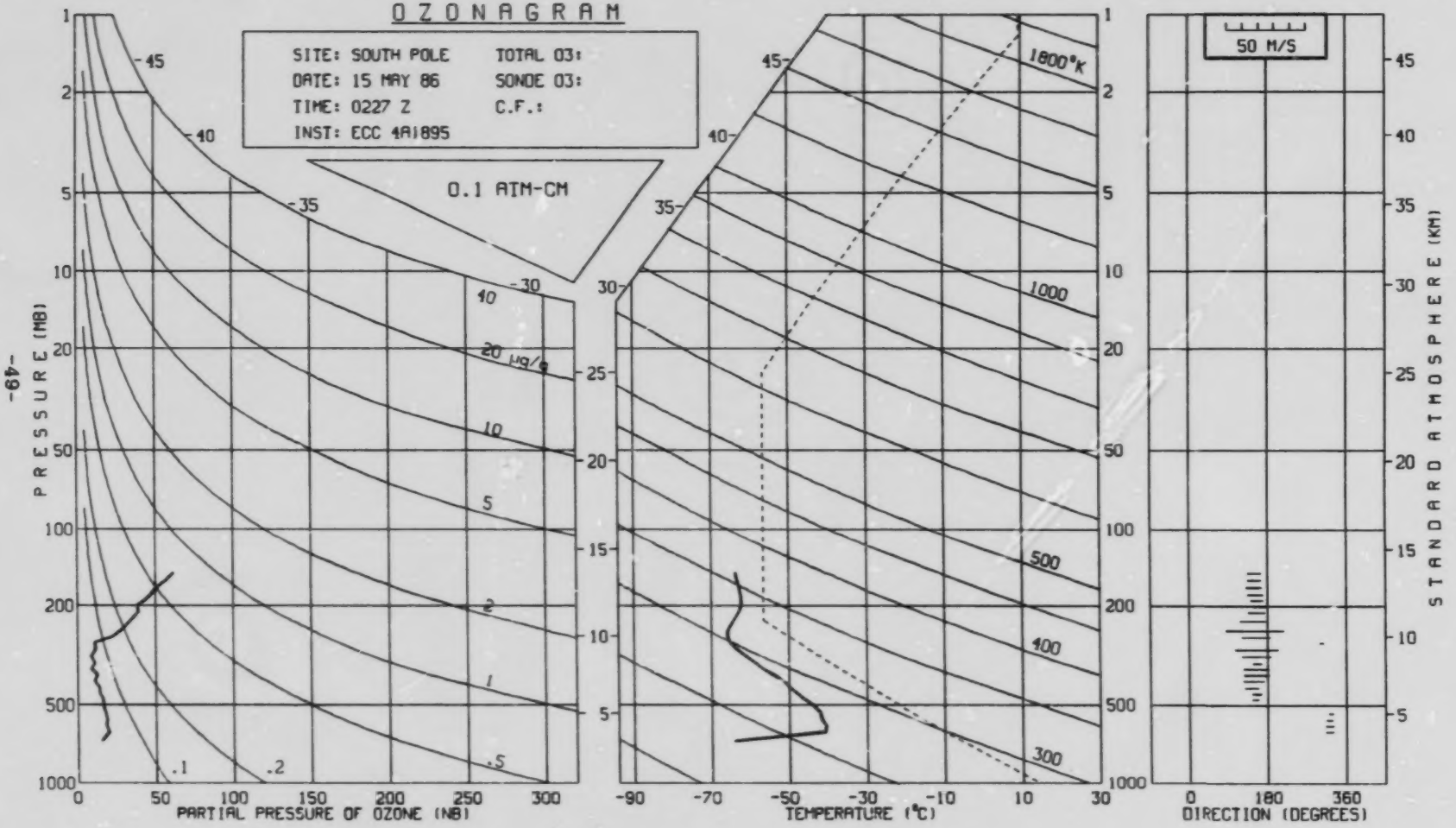
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
16.3	28.4	48.9	65.0	127.6	61.4	30.4	12.2

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110121048603	99	ECC	TOTAL O3 FROM SONDE DATA 218		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110221048603	682 19-62	500 15-41159	4 300 54-59167	16 200 46-59162	28
1110321048603	150 50-58168	34 100 55-57162	28 70 74-60153	3 59149-65107	5
1110421048603	30 89-72146	1720.0 53-73136	1110.0 28-71124	16 7.0 18-70133	14
1110521048603	5.0 9-66159	12 3.0 0-64	86 14 663 17-44349	4 630 17-38337	4
1110621048603	564 16-37154	1 450 15-44147	11 343 11-58166	19 332 18-59165	20
1110721048603	319 43-58164	18 93 55-57146	7 96 45-57152	7 74 78-60137	8
1110821048603	69 87-60148	3 67 78-61139	3 66113-62157	4 63118-62182	5
1110921048603	60135-62157	7 59159-63134	3 57171-63147	4 51172-65194	4
1111021048603	50147-65106	4 47127-67141	4 45137-68119	7 41132-70150	3
1111121048603	39106-71158	12 36 92-73137	8 34 81-73127	14 31 98-72149	16
1111221048603	28.2 76-72141	16 5.4 12-65158	14 4.2 8-68118	9 4.1 0-67128	11
1111321048603	3.2 0-63 97	12 2.5 0-60144	10 2.4 0-63127	13 2.3 0-61104	13
1111421048603	2.3 0-64104	13			



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 15 MAY 86 227 Z ECC SONDE: 4A1895
SURFACE CONDITIONS: PRESSURE 689.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.5 ORD;
O3 ORD ZERO 33.0, BKGND 33.4, CAL 73.3; O3 BKGND .052 MICROAMP; FLOW RATE 28.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	689.9	2800	15.1	.022	41.7	.0000	-64.4			232.1		
1	634.0	3345	19.8	.031	49.3	.0012	-41.0			264.4	4.6	322.
2	600.0	3719	18.0	.030	44.6	.0020	-40.8			268.9	4.6	322.
3	569.0	4079	18.6	.033	46.4	.0028	-41.9			271.7	3.8	321.
4	536.0	4483	17.6	.033	44.1	.0036	-42.3			275.9	2.6	325.
5	505.0	4884	16.3	.032	41.1	.0044	-43.9			278.6	.2	52.
6	475.0	5292	16.0	.034	40.9	.0052	-46.5			280.4	4.1	153.
7	450.0	5649	13.9	.031	35.6	.0058	-48.2			282.6	5.9	156.
8	427.0	5993	13.9	.033	35.9	.0064	-50.1			284.4	9.0	144.
9	400.0	6418	10.7	.027	28.0	.0070	-51.7			287.8	13.8	149.
10	377.0	6799	12.6	.033	33.4	.0076	-54.3			289.2	15.8	155.
11	356.0	7164	8.6	.024	23.0	.0081	-56.9			290.5	16.0	153.
12	336.0	7528	10.8	.032	29.2	.0085	-58.9			292.5	5.2	156.
13	316.0	7910	8.6	.027	23.5	.0090	-61.2			294.5	18.3	155.
14	296.0	8313	11.3	.038	31.1	.0095	-63.6			296.7	27.3	155.
15	280.0	8652	10.8	.039	30.0	.0100	-65.4			298.9	2.8	304.
16	265.0	8986	22.2	.084	61.8	.0107	-66.0			302.8	18.0	154.
17	250.0	9339	27.9	.112	77.7	.0118	-66.0			307.9	36.8	151.
18	230.0	9846	34.0	.148	94.0	.0139	-64.6			317.4	16.9	148.
19	212.0	10345	39.1	.184	107.5	.0162	-63.1			327.2	10.7	155.
20	201.0	10673	38.5	.192	105.5	.0178	-62.5			333.1	7.5	161.
21	191.0	10987	43.5	.228	119.2	.0195	-62.5			338.6	7.8	156.
22	181.0	11318	47.1	.260	129.1	.0214	-62.7			343.8	9.9	152.
23	170.0	11704	51.1	.301	140.5	.0239	-63.1			348.5	9.8	149.
24	160.0	12076	57.2	.358	157.7	.0264	-63.6			353.7	8.1	150.
25	150.0	12471	61.6	.411	170.0	.0295	-64.0			359.6	8.1	150.

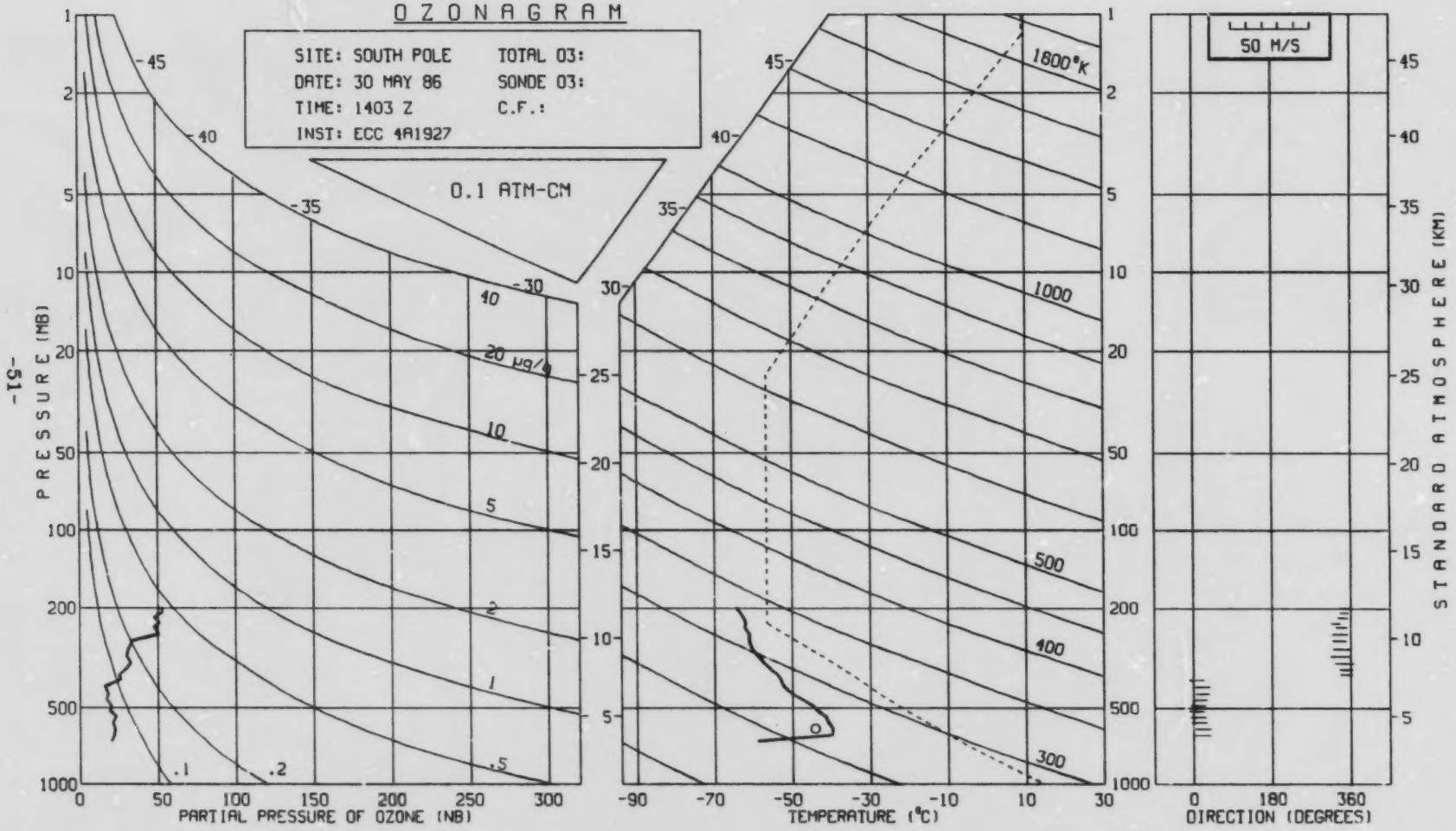
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.8	13.4	999.9	999.9	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110115058602          99        ECC     TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110215058602    690 15-64       500 16-44 68  1 300 11-63155 25 200 39-63161  8
1110315058602    634 20-41322  5 280 11-65304  3 250 28-66151 37 150 62-64150  8
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 30 MAY 86 1403 Z ECC SONDE: 4A1927
SURFACE CONDITIONS. PRESSURE 670.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.7 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.9 ORD;
O3 ORD ZERO 33.0, BKGND 33.9, CAL 72.8; O3 BKGND .119 MICROAMP; FLOW RATE 28.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	670.9	2800	19.8	.030	53.4	.0000	-59.2			239.8		
1	635.0	3160	21.9	.034	54.3	.0009	-40.1			265.3	10.4	20.
2	600.0	3547	22.2	.037	54.9	.0019	-40.0	-44.5	62.8	269.8	10.4	20.
3	570.0	3896	20.7	.036	51.5	.0028	-41.1			272.5	9.6	12.
4	542.0	4237	22.9	.042	57.1	.0036	-41.7			275.7	10.1	10.
5	514.0	4594	19.0	.037	47.9	.0045	-43.8			277.4	9.7	7.
6	489.0	4927	19.5	.040	49.5	.0053	-45.3			279.5	9.2	11.
7	464.0	5275	16.8	.036	42.9	.0060	-47.6			280.9	8.4	16.
8	440.0	5623	17.9	.041	46.5	.0067	-50.3			281.8	8.9	20.
9	413.5	6026	15.8	.038	41.3	.0076	-52.4			284.1	10.7	18.
10	390.0	6403	26.0	.067	68.1	.0085	-53.2			287.9	9.7	6.
11	372.0	6706	25.1	.067	66.2	.0095	-54.3			290.4	8.1	350.
12	355.0	7004	29.6	.083	78.8	.0105	-55.9			292.1	8.5	350.
13	335.0	7371	32.6	.097	87.3	.0119	-57.5			294.7	11.7	346.
14	313.5	7788	30.0	.096	81.0	.0136	-59.0			298.3	12.6	337.
15	292.5	8221	30.9	.106	83.9	.0152	-60.6			302.0	10.2	339.
16	270.0	8718	33.9	.126	92.3	.0173	-61.3			307.9	9.4	334.
17	253.0	9121	50.6	.200	138.0	.0194	-61.3			313.7	10.0	336.
18	237.0	9525	47.7	.201	130.9	.0220	-62.6			317.7	7.3	339.
19	228.0	9763	51.1	.224	139.9	.0235	-62.2			321.8	5.5	326.
20	218.0	10039	48.2	.221	132.3	.0252	-62.8			325.1	6.3	342.
21	208.0	10327	52.9	.254	145.9	.0271	-63.7			328.0	5.8	345.
22	199.0	10597	52.5	.264	145.5	.0289	-64.7			330.7	5.8	345.

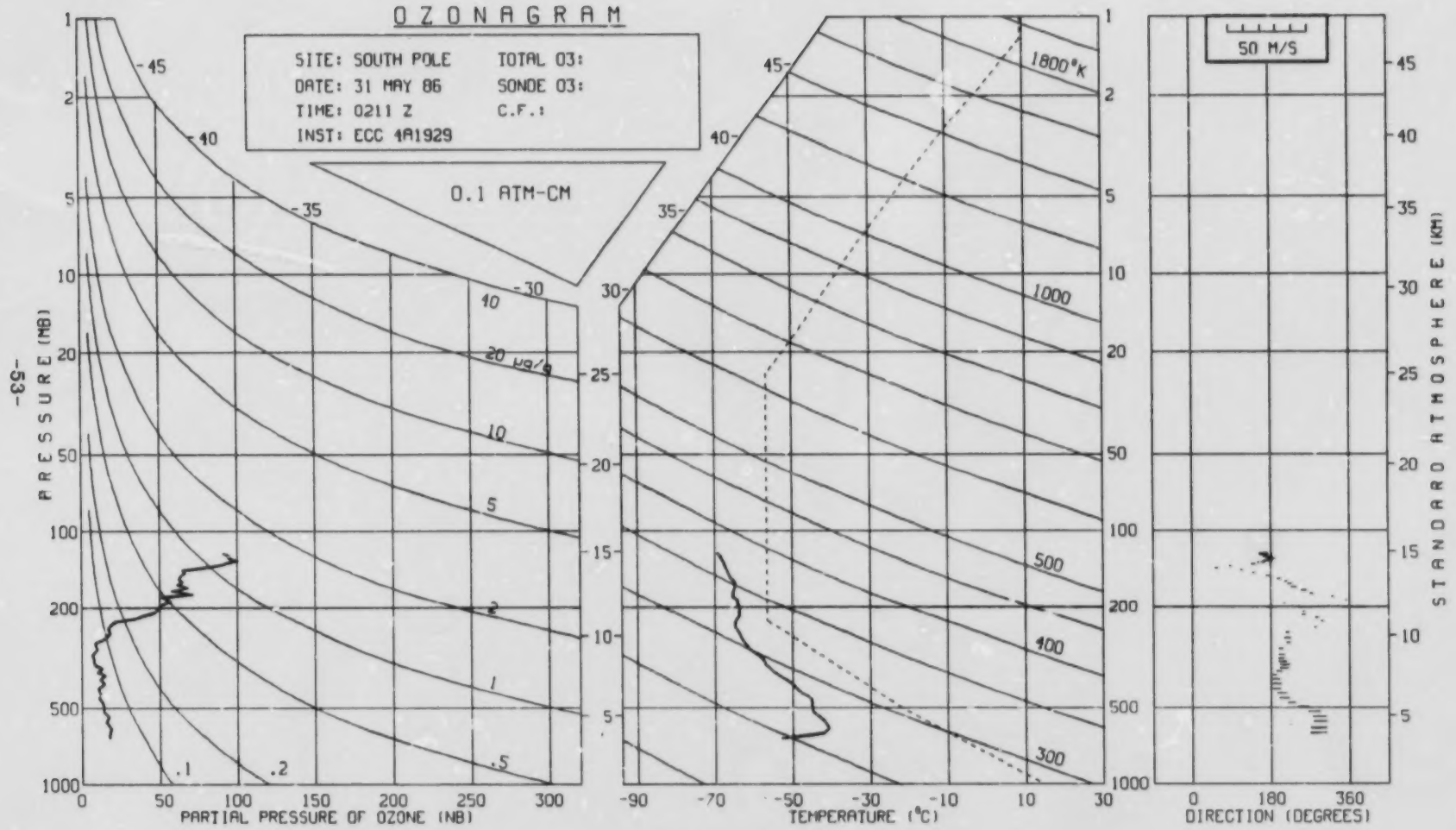
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
21.2	27.4	999.9	999.9	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110130058614            99       ECC     TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110230058614    671 20-59       500 19-45  9  9 300 31-60338 11 200 53-65345  6
1110330058614    635 22-40 20 10 414 16-52 18 11 390 26-53  6 10 270 34-61334  9
1110430058614    253 51-61336 10 199 53-65345  6
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 31 MAY 86 211 Z ECC SONDE: 4A1929
SURFACE CONDITIONS: PRESSURE 665.6 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 74.5 ORD;
O3 ORD ZERO 33.0, BKGND 33.5, CAL 69.4; O3 BKGND .072 MICROAMP; FLOW RATE 30.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	665.6	2800	17.6	.026	46.3	.0000	-53.2			247.1		
1	636.0	3100	17.6	.028	44.0	.0006	-42.3			262.8	10.4	288.
2	604.0	3450	18.7	.031	46.5	.0014	-40.9			268.3	10.4	288.
3	570.0	3843	15.6	.027	39.0	.0022	-41.9			271.6	9.2	293.
4	544.0	4158	17.3	.032	43.4	.0028	-43.5			273.3	8.8	291.
5	519.0	4473	13.9	.027	35.1	.0033	-45.1			275.1	7.9	278.
6	496.0	4775	13.9	.028	35.3	.0038	-45.3			278.4	6.6	254.
7	478.0	5021	13.1	.027	33.2	.0042	-45.3			281.3	5.5	227.
8	459.0	5291	10.9	.024	27.7	.0046	-45.6			284.2	6.2	210.
9	440.0	5571	11.9	.027	30.6	.0050	-47.8			285.0	6.7	204.
10	421.0	5861	10.2	.024	26.4	.0054	-49.3			286.7	6.8	190.
11	404.0	6130	14.5	.036	37.6	.0058	-50.4			288.5	6.8	191.
12	388.0	6392	11.8	.030	30.9	.0062	-52.1			289.7	5.0	191.
13	375.0	6611	14.8	.039	39.0	.0066	-53.8			290.3	3.5	186.
14	362.0	6836	9.9	.027	26.3	.0069	-55.3			291.3	4.1	198.
15	350.0	7050	12.7	.036	33.7	.0072	-56.1			293.0	5.9	210.
16	340.0	7233	8.3	.024	22.2	.0074	-57.2			293.9	6.1	212.
17	331.0	7402	7.8	.024	20.8	.0076	-57.4			295.9	5.0	207.
18	322.0	7575	7.8	.024	20.9	.0078	-57.9			297.5	3.8	203.
19	310.0	7813	6.6	.021	17.9	.0080	-59.3			298.9	4.0	204.
20	295.0	8122	9.9	.034	26.9	.0083	-61.4			300.1	3.0	203.
21	280.0	8444	8.2	.029	22.6	.0087	-62.5			303.0	2.7	220.
22	269.0	8690	14.3	.053	39.5	.0091	-63.3			305.4	4.0	217.
23	256.0	8993	18.1	.071	50.1	.0097	-64.0			308.7	2.2	217.
24	244.0	9286	17.0	.070	47.2	.0103	-65.0			311.5	1.4	282.
25	231.0	9619	20.7	.090	57.4	.0112	-65.0			316.4	2.1	298.
26	223.0	9834	34.1	.153	94.3	.0119	-64.4			320.5	2.7	285.
27	217.0	10000	39.5	.182	109.0	.0127	-63.8			323.9	3.2	255.
28	210.0	10200	46.8	.223	129.3	.0138	-64.0			326.6	1.9	255.
29	201.0	10468	49.2	.245	135.8	.0155	-63.8			331.1	1.3	246.
30	193.0	10716	52.7	.273	145.6	.0171	-64.4			334.0	1.0	209.
31	186.8	10915	56.8	.304	157.1	.0185	-64.4			337.1	1.2	353.
32	181.0	11107	51.9	.287	144.5	.0199	-65.6			338.3	1.5	322.
33	175.8	11284	69.8	.397	194.1	.0213	-65.6			341.1	2.2	273.
34	170.5	11470	58.7	.344	163.0	.0228	-65.4			344.4	3.4	256.
35	165.4	11654	67.7	.409	187.8	.0244	-65.0			348.1	3.6	232.
36	160.6	11833	62.0	.386	172.1	.0259	-65.0			351.0	2.6	223.
37	156.8	11978	64.7	.413	179.5	.0271	-65.2			353.1	2.0	215.
38	153.0	12127	62.6	.409	174.4	.0283	-65.0			354.2	2.8	198.
39	149.1	12283	63.8	.428	178.1	.0296	-66.4			356.1	2.2	172.
40	145.2	12443	66.5	.458	186.1	.0309	-66.8			358.1	2.1	140.
41	141.5	12598	65.1	.460	182.3	.0323	-67.0			360.4	1.9	113.
42	138.8	12714	77.0	.555	216.0	.0334	-67.4			361.7	2.2	56.
43	136.7	12805	84.1	.615	236.1	.0343	-67.4			363.3	1.7	87.
44	134.6	12898	90.0	.669	253.2	.0354	-67.8			364.2	3.2	140.
45	132.5	12992	94.1	.710	264.7	.0365	-67.8			365.8	4.6	157.
46	130.5	13083	99.5	.762	280.4	.0377	-68.3			366.6	5.5	174.
47	128.4	13180	95.5	.744	269.4	.0389	-68.5			368.0	5.9	180.
48	126.3	13278	94.3	.747	266.2	.0402	-68.7			369.3	5.7	173.
49	124.2	13378	94.2	.758	266.6	.0414	-69.1			370.3	5.2	163.

STATION: SOUTH POLE LAUNCH DATE: 31 MAY 86 211 Z ECC SONDE: 4A1929

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	122.0	13484	90.7	.743	257.2	.0427	-69.6			371.4	5.2	163.

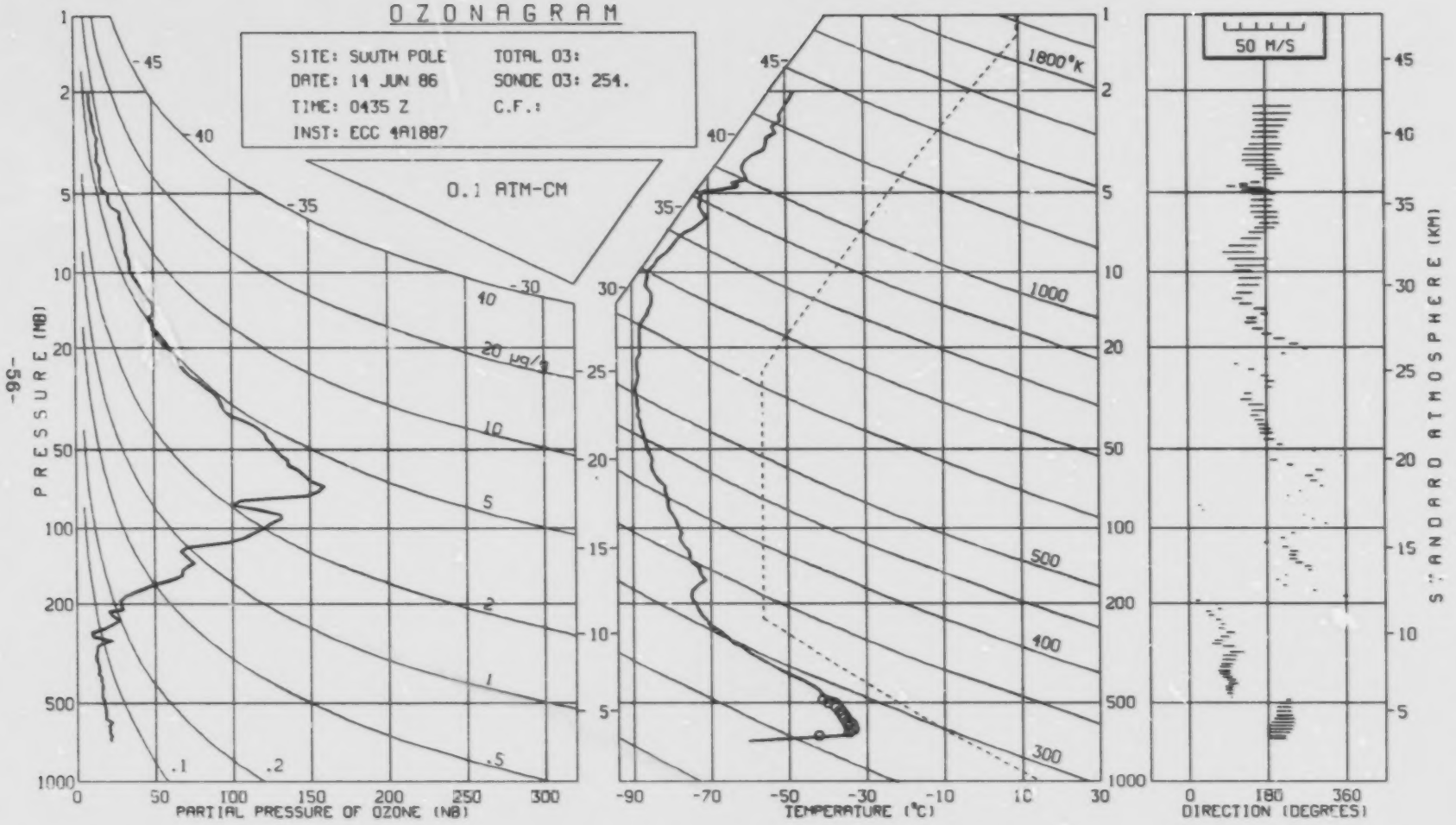
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
16.6	11.5	56.6	999.9	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110131058602	99	ECC TOTAL O3 FROM SONDE DATA			
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110231058602	666 18-53	500 14-45258	7 300 9-61203	3 200 50-64241	1
1110331058602	150 64-66178	2 636 18-42288	10 604 19-41288	10 459 11-46210	6
1110431058602	244 17-65282	1 181 52-66322	2 176 70-66273	2 171 59-65256	3
1110531058602	165 68-65232	4 142 65-67113	2 131100-68174	6 122 91-70163	5



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 14 JUN 86 435 Z ECC SONDE: 4A1887
SURFACE CONDITIONS: PRESSURE 699.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.4 ORD;
O3 ORD ZERO 35.5, BKGND 35.9, CAL 74.9; O3 BKGND .053 MICROAMP; FLOW RATE 28.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 254.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	699.7	2800	21.5	.031	58.3	.0000	-60.7			235.3		
1	684.0	2944	21.3	.031	55.2	.0004	-50.6			248.1	11.3	200.
2	668.0	3103	22.1	.033	53.9	.0008	-36.8	-42.6	56 0	265.2	11.3	200.
3	649.0	3304	20.6	.032	49.5	.0013	-32.9	-34.9	83.2	271.9	14.5	204.
4	630.0	3513	20.9	.033	50.1	.0018	-32.5	-34.2	85.7	274.7	16.1	207.
5	611.0	3728	20.4	.033	49.0	.0023	-32.7	-35.2	80.2	276.8	15.5	210.
6	593.0	3938	22.4	.038	53.8	.0028	-33.1	-35.5	80.3	278.7	14.7	214.
7	574.0	4166	18.1	.032	43.6	.0033	-34.2	-36.2	83.1	280.1	13.0	217.
8	558.0	4363	18.5	.033	44.8	.0037	-34.8	-36.7	84.4	281.5	10.1	218.
9	540.0	4591	18.1	.034	43.9	.0042	-35.5	-37.4	84.0	283.4	9.3	215.
10	520.0	4853	18.0	.035	43.8	.0047	-36.3	-38.4	82.6	285.5	9.3	216.
11	501.0	5110	16.6	.033	40.6	.0052	-37.1	-40.3	73.9	287.6	7.1	219.
12	487.0	5305	17.1	.035	41.8	.0056	-37.8	-41.6	68.5	289.1	2.8	226.
13	474.0	5490	15.9	.034	39.6	.0059	-40.9			287.5	.6	94.
14	460.0	5693	15.9	.035	39.7	.0063	-41.9			288.8	3.2	92.
15	446.0	5902	15.9	.036	39.7	.0067	-42.4			290.6	4.4	90.
16	432.0	6116	16.2	.038	40.7	.0071	-43.7			291.7	4.8	91.
17	419.0	6320	16.5	.039	41.9	.0075	-45.2			292.3	5.6	100.
18	404.0	6562	15.2	.038	38.9	.0080	-46.8			293.3	5.6	96.
19	392.0	6761	15.7	.040	40.3	.0083	-48.7			293.4	6.2	86.
20	380.0	6964	13.5	.036	35.1	.0087	-50.4			293.6	6.8	81.
21	369.0	7154	14.6	.040	38.1	.0090	-52.1			293.9	7.2	79.
22	356.0	7385	13.7	.038	36.0	.0094	-53.8			294.6	7.4	82.
23	345.0	7585	13.7	.040	36.2	.0098	-55.3			295.3	7.7	86.
24	332.0	7829	12.3	.037	33.0	.0101	-57.2			295.9	8.8	90.
25	320.0	8060	12.3	.038	33.3	.0105	-59.1			296.4	8.8	91.
26	309.0	8278	12.7	.041	34.5	.0108	-60.7			297.2	9.2	108.
27	295.0	8565	13.1	.044	35.8	.0113	-62.5			298.6	7.4	89.
28	288.0	8712	16.0	.056	44.3	.0116	-64.4			297.9	6.5	62.
29	279.0	8905	22.3	.080	61.8	.0121	-65.2			299.5	5.7	67.
30	270.0	9104	10.6	.039	29.7	.0125	-66.2			300.9	5.6	81.
31	260.0	9331	9.8	.038	27.4	.0128	-67.6			302.0	5.0	94.
32	251.0	9542	18.0	.072	51.0	.0132	-69.1			302.9	3.4	73.
33	242.0	9759	22.5	.093	64.2	.0138	-70.7			303.7	2.9	76.
34	232.0	10008	27.7	.119	79.1	.0146	-71.3			306.4	3.2	66.
35	223.0	10241	22.8	.102	65.5	.0154	-72.5			308.1	3.4	50.
36	215.0	10455	20.7	.096	59.7	.0160	-73.0			310.5	2.8	44.
37	210.0	10592	29.8	.142	86.2	.0165	-73.5			311.9	2.4	69.
38	201.0	10847	28.2	.140	81.7	.0175	-74.0			315.0	2.3	62.
39	195.3	11014	27.8	.142	80.9	.0181	-74.7			316.4	2.8	20.
40	187.0	11266	31.4	.168	91.7	.0191	-75.2			319.6	2.7	359.
41	178.6	11532	39.8	.223	116.0	.0204	-75.0			324.2	1.6	288.
42	170.2	11812	49.2	.289	142.3	.0221	-73.5			331.2	2.3	220.
43	162.8	12073	60.4	.371	173.0	.0241	-71.6			338.6	2.0	203.
44	155.6	12339	67.8	.436	195.3	.0263	-72.8			341.0	1.0	222.
45	148.4	12616	68.1	.459	196.4	.0289	-73.0			345.2	2.4	270.
46	143.2	12824	71.3	.498	206.3	.0308	-73.7			347.5	4.0	273.
47	138.3	13026	75.6	.547	220.1	.0329	-75.0			348.8	4.7	253.
48	133.5	13230	72.6	.544	212.0	.0349	-75.5			351.4	5.0	240.
49	128.5	13451	69.6	.542	203.2	.0371	-75.5			355.3	4.4	238.

STATION: SOUTH POLE LAUNCH DATE: 14 JUN 86 435 Z ECC SONDE: 4A1887

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	123.7	13671	67.1	.542	196.3	.0391	-75.8			358.7	5.4	241.
51	119.0	13894	72.0	.605	211.6	.0412	-76.8			360.7	4.1	222.
52	114.0	14140	97.3	.854	287.3	.0441	-77.6			363.6	3.2	178.
53	109.3	14380	107.7	.985	319.0	.0475	-78.2			367.0	2.6	216.
54	104.6	14631	113.6	1.086	335.4	.0514	-77.6			372.7	2.7	239.
55	100.0	14888	120.7	1.207	357.3	.0555	-78.2			376.4	1.4	247.
56	96.1	15114	125.0	1.301	371.2	.0594	-78.8			379.6	1.4	314.
57	92.3	15343	131.6	1.426	392.0	.0635	-79.3			382.9	1.3	284.
58	88.9	15555	131.4	1.478	392.7	.0673	-79.9			385.8	.9	264.
59	85.3	15788	117.3	1.375	352.2	.0714	-80.8			388.6	.9	32.
60	81.9	16016	100.7	1.230	302.8	.0749	-81.1			392.5	1.3	24.
61	78.4	16261	105.2	1.342	316.3	.0784	-81.1			397.4	.4	271.
62	75.0	16510	148.6	1.981	447.6	.0829	-81.5			401.8	1.0	228.
63	72.0	16739	155.5	2.160	469.0	.0878	-81.8			405.9	.9	256.
64	68.9	16985	158.5	2.300	478.1	.0932	-81.8			411.0	1.5	305.
65	65.8	17241	149.7	2.275	455.5	.0988	-83.4			412.9	4.3	287.
66	63.0	17482	146.5	2.325	448.2	.1039	-84.4			415.8	4.9	277.
67	60.0	17751	142.5	2.375	437.6	.1095	-85.1			420.0	4.0	300.
68	57.5	17985	135.8	2.362	417.9	.1142	-85.5			424.4	3.8	233.
69	55.2	18209	135.7	2.458	416.7	.1185	-85.1			430.2	4.4	195.
70	53.0	18432	131.7	2.485	405.3	.1228	-85.5			434.4	.7	349.
71	50.6	18686	128.6	2.542	397.3	.1276	-86.2			438 4	1.4	288.
72	48.2	18951	126.1	2.616	390.1	.1325	-86.6			443.7	3.4	210.
73	45.8	19229	122.5	2.675	380.0	.1375	-87.0			449.3	6.6	186.
74	43.3	19534	120.9	2.792	375.6	.1429	-87.4			455.6	8.1	179.
75	41.6	19751	117.5	2.825	366.0	.1466	-87.8			459.9	7.4	176.
76	40.0	19963	113.6	2.840	354.5	.1502	-88.2			464.0	6.8	171.
77	38.1	20226	106.9	2.806	333.5	.1544	-88.2			470.5	6.5	163.
78	36.5	20457	99.0	2.712	310.4	.1579	-89.0			474.3	6.2	152.
79	34.9	20699	95.0	2.722	297.1	.1614	-88.6			481.4	8.5	161.
80	33.2	20968	93.4	2.813	292.9	.1651	-89.0			487.3	9.6	155.
81	31.6	21234	91.9	2.908	288.0	.1687	-89.0			494.2	7.4	134.
82	30.0	21513	88.9	2.963	279.4	.1724	-89.4			500.4	4.5	137.
83	28.3	21826	83.1	2.936	261.2	.1763	-89.4			508.9	4.2	185.
84	27.0	22079	78.9	2.922	247.5	.1793	-89.0			516.9	5.7	187.
85	25.7	22345	73.4	2.856	229.6	.1823	-88.6			525.4	5.4	176.
86	24.2	22669	69.4	2.868	217.7	.1857	-89.0			533.3	3.6	145.
87	23.1	22919	66.2	2.866	207.4	.1882	-89.0			540.5	2.6	110.
88	22.1	23157	66.0	2.986	206.8	.1905	-89.0			547.3	1.6	180.
89	21.1	23407	63.8	3.024	199.1	.1929	-88.2			557.1	2.0	219.
90	20.2	23643	59.9	2.965	187.0	.1950	-88.2			564.1	2.5	269.
91	19.3	23889	55.9	2.896	174.5	.1971	-88.2			571.5	5.5	243.
92	18.5	24118	53.1	2.870	165.9	.1989	-88.2			578.4	7.4	210.
93	17.8	24326	52.0	2.921	162.3	.2005	-88.2			584.8	6.6	181.
94	16.9	24607	49.5	2.929	154.5	.2026	-88.2			593.6	6.7	161.
95	16.0	24903	49.5	3.094	154.3	.2047	-87.8			604.2	7.2	145.
96	15.3	25146	47.1	3.078	146.2	.2064	-87.0			614.6	5.9	147.
97	14.7	25364	49.5	3.367	152.8	.2079	-86.2			624.1	4.3	176.
98	14.0	25631	50.0	3.571	154.1	.2099	-85.9			634.2	7.1	165.
99	13.3	25912	50.0	3.759	153.4	.2119	-85.1			646.0	8.0	133.
100	12.7	26166	46.7	3.677	143.3	.2136	-85.1			654.6	6.1	113.
101	12.0	26478	44.3	3.692	136.1	.2157	-85.1			665.3	10.3	130.
102	11.2	26856	41.7	3.723	129.1	.2180	-86.6			673.2	13.9	139.
103	10.5	27208	38.2	3.638	117.9	.2201	-86.2			687.1	14.7	144.
104	9.9	27547	35.1	3.556	108.1	.2218	-85.9			730.8	10.3	126.

STATION: SOUTH POLE LAUNCH DATE: 14 JUN 86 435 Z ECC SONDE: 4A1887

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	9.4	27815	35.0	3.723	107.1	.2232	-84.4			716.0	18.8	142.
106	8.9	28117	34.8	3.910	105.8	.2247	-83.4			731.3	25.7	139.
107	8.4	28433	32.5	3.864	97.6	.2262	-81.1			752.0	20.3	118.
108	7.9	28771	32.9	4.154	98.0	.2278	-79.6			771.1	17.9	127.
109	7.4	29134	31.9	4.293	94.5	.2294	-78.2			791.1	12.7	146.
110	7.1	29435	31.9	4.525	93.6	.2307	-76.3			811.0	11.2	161.
111	6.8	29661	30.9	4.558	89.5	.2317	-74.0			829.7	12.2	178.
112	6.5	29917	30.1	4.638	86.6	.2327	-72.3			847.3	12.2	188.
113	6.2	30187	28.7	4.629	81.8	.2338	-70.7			865.3	14.8	181.
114	5.9	30470	29.1	4.924	83.4	.2349	-71.6			873.3	16.8	177.
115	5.6	30766	23.4	4.164	67.3	.2359	-72.5			881.8	13.8	170.
116	5.3	31077	21.6	4.053	62.0	.2369	-72.3			896.3	13.7	172.
117	5.1	31394	21.6	4.277	62.1	.2378	-72.0			911.3	15.1	175.
118	5.0	31488	20.5	4.125	59.0	.2380	-72.3			914.4	17.9	165.
119	4.9	31571	19.1	3.898	54.5	.2383	-70.7			925.5	16.9	159.
120	4.9	31619	17.6	3.621	49.8	.2384	-68.5			937.7	11.3	158.
121	4.8	31693	17.6	3.667	49.2	.2386	-66.4			950.6	8.5	158.
122	4.8	31756	17.2	3.621	47.7	.2387	-64.4			962.5	4.9	131.
123	4.7	31820	16.6	3.532	45.4	.2388	-62.7			973.4	5.0	101.
124	4.6	31912	16.6	3.585	45.4	.2390	-62.5			978.4	5.2	130.
125	4.6	32019	16.6	3.648	45.8	.2393	-63.8			977.1	5.8	157.
126	4.4	32240	16.3	3.713	44.2	.2397	-60.3			1003.6	7.7	187.
127	4.2	32515	16.6	3.952	45.1	.2403	-60.7			1014.7	13.0	198.
128	4.0	32771	16.2	4.020	44.3	.2408	-61.4			1023.3	16.0	186.
129	3.9	33006	16.2	4.175	44.3	.2413	-61.4			1034.4	19.2	170.
130	3.7	33301	14.1	3.811	38.3	.2419	-60.7			1052.1	21.0	164.
131	3.5	33612	14.5	4.119	39.0	.2425	-58.8			1076.9	19.7	164.
132	3.4	33906	14.6	4.345	38.7	.2430	-55.8			1106.7	22.7	173.
133	3.2	34217	13.9	4.344	36.8	.2435	-55.3			1124.7	21.0	181.
134	3.0	34586	14.7	4.868	38.9	.2442	-55.1			1144.3	16.9	179.
135	2.9	34868	12.9	4.464	33.7	.2447	-52.7			1171.4	16.3	181.
136	2.7	35211	12.5	4.562	32.9	.2452	-53.7			1184.3	18.1	190.
137	2.6	35549	11.4	4.385	29.7	.2457	-51.5			1214.1	21.7	192.
138	2.5	35934	11.1	4.531	28.8	.2462	-51.8			1233.2	24.0	196.
139	2.3	36344	10.0	4.348	25.8	.2468	-50.6			1262.5	24.0	196.
140	2.2	36724	9.6	4.424	24.7	.2472	-49.4			1290.6		
141	2.0	37227	9.3	4.627	23.8	.2478	-48.1			1327.0		

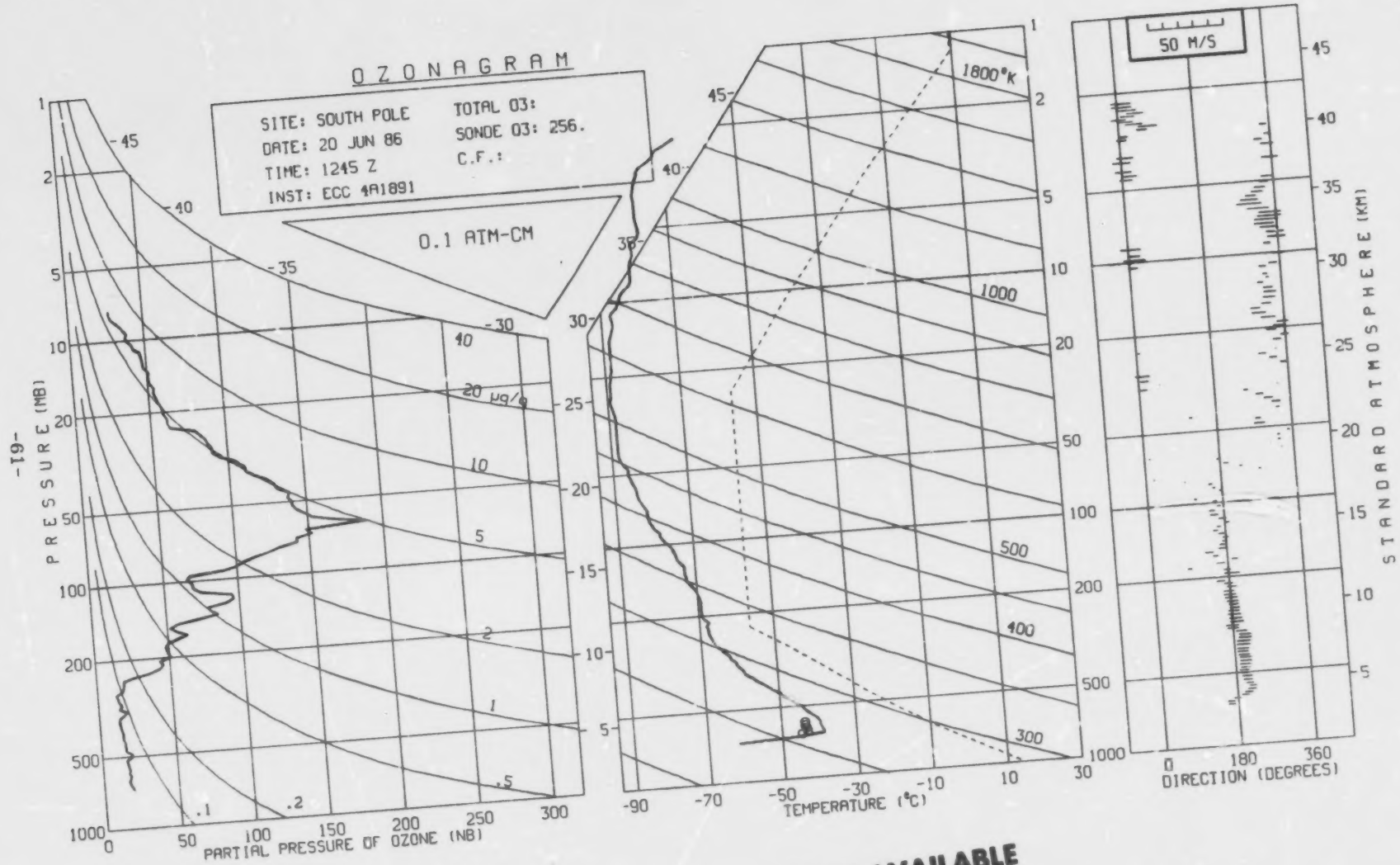
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
19.8	14.7	46.3	121.2	118.1	66.0	41.1	24.0

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110114068605           99        ECC     TOTAL O3 FROM SONDE DATA  254
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110214068605    700 22-61       500 17-37219  7 300 13-62 96  8 200 28-74 55  2
1110314068605    150 68-73265  2 100121-78247  1  70157-82287  1  50128-86269  2
1110414068605     30 89-89137  520.0 59-88263  310.0 36-86130 11 7.0 32-76164 11
1110514068605    5.0 21-72169 17 3.0 14-55179 17 684 21-51200 11 668 22-37200 11
1110614068605    649 21-33204 15 279 22-65 67  6 260 10-68 94  5 242 23-71 76  3
1110714068605    179 40-75288  2 163 60-72203  2 138 76-75253  5 119 72-77222  4
1110814068605    114 97-78178  3  89131-80264  1  82101-P1 24  1  78105-81271  0
1110914068605     75149-82228  113.3 50-85133  8 6.2 29-71181 15 4.9 19-71159 17
1111014068605    4.7 17-63101  5 4.6 17-64157  6 4.4 16-60187  8 3.9 16-61170 20
1111114068605    3.4 15-56173 23 2.0  9-48
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 20 JUN 86 1245 Z ECC SONDE: 4A1891
SURFACE CONDITIONS: PRESSURE 679.8 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.7 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.1 ORD;
O3 ORD ZERO 33.2, BKGND 33.5, CAL 73.0; O3 BKGND .040 MICROAMP; FLOW RATE 28.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 256.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	679.8	2800	19.8	.029	54.2	.0000	-62.0			235.7		
1	661.0	2979	18.9	.029	48.3	.0004	-46.6			255.0	5.4	164.
2	643.0	3165	17.6	.027	43.4	.0008	-39.0	-44.9	54.7	265.6	5.4	164.
3	627.0	3337	17.1	.027	42.2	.0012	-39.0	-43.4	64.2	267.5	4.9	178.
4	611.0	3514	17.8	.029	44.0	.0015	-39.4	-43.7	65.0	269.1	5.0	198.
5	595.5	3689	18.7	.031	46.2	.0019	-39.8	-44.0	65.4	270.6	5.4	207.
6	580.0	3869	17.5	.030	43.3	.0023	-39.8	-44.0	65.5	272.6	5.7	214.
7	564.0	4059	17.9	.032	44.4	.0027	-40.4			274.2	5.5	217.
8	549.0	4242	17.4	.032	43.5	.0030	-41.3			275.2	5.5	210.
9	533.0	4442	16.9	.032	42.3	.0034	-42.6			276.0	6.2	206.
10	517.0	4647	16.4	.032	41.3	.0038	-43.8			276.9	6.7	205.
11	502.0	4844	20.3	.040	51.2	.0043	-44.5			278.4	6.5	201.
12	489.0	5019	20.3	.042	51.4	.0047	-45.8			279.0	6.3	199.
13	475.0	5212	16.5	.035	42.1	.0051	-46.8			280.0	6.9	202.
14	462.0	5395	16.4	.035	42.1	.0055	-48.2			280.5	7.7	203.
15	448.0	5597	15.9	.035	41.1	.0059	-49.5			281.3	7.5	204.
16	435.0	5789	15.9	.037	41.1	.0062	-50.4			282.5	7.5	204.
17	424.0	5955	15.0	.035	39.1	.0065	-51.8			282.9	7.8	201.
18	412.0	6140	15.0	.036	39.3	.0069	-53.0			283.6	7.6	199.
19	400.0	6329	15.0	.038	39.6	.0072	-54.4			284.2	8.0	200.
20	386.0	6556	14.1	.037	37.5	.0076	-55.9			285.2	9.2	202.
21	373.3	6768	13.7	.037	36.7	.0080	-57.2			286.2	9.3	203.
22	362.0	6961	13.3	.037	35.8	.0083	-58.9			286.5	8.4	207.
23	352.0	7136	13.7	.039	37.0	.0086	-59.2			288.3	8.0	207.
24	342.0	7316	16.6	.049	45.0	.0090	-60.1			289.5	7.6	199.
25	331.0	7519	18.7	.056	50.8	.0094	-61.0			291.0	7.4	180.
26	321.5	7699	14.0	.044	38.2	.0098	-61.1			293.2	8.6	179.
27	311.0	7904	15.7	.050	43.0	.0102	-62.4			294.2	8.9	190.
28	301.0	8105	13.9	.046	38.2	.0106	-62.8			296.5	8.2	188.
29	291.0	8312	13.5	.046	37.2	.0109	-64.1			297.5	8.5	185.
30	281.0	8525	12.6	.045	34.9	.0113	-64.9			299.4	7.7	185.
31	271.5	8734	16.8	.062	46.9	.0117	-66.0			300.6	6.5	188.
32	263.0	8926	17.6	.067	49.2	.0121	-66.6			302.5	6.6	186.
33	255.0	9112	18.0	.071	50.3	.0126	-67.0			304.6	7.7	183.
34	246.0	9328	18.4	.075	51.5	.0131	-67.5			307.1	8.2	181.
35	238.0	9526	24.8	.104	69.8	.0136	-67.9			309.4	8.2	179.
36	230.0	9731	36.6	.159	103.0	.0145	-67.9			312.4	7.5	177.
37	220.5	9984	43.5	.197	122.5	.0158	-68.3			315.6	6.5	185.
38	213.0	10191	45.6	.214	128.1	.0170	-67.7			319.7	6.0	177.
39	207.0	10362	43.6	.211	123.0	.0180	-68.7			320.6	5.7	159.
40	200.0	10567	51.3	.257	145.2	.0193	-69.4			322.8	4.9	168.
41	194.0	10748	50.0	.258	141.7	.0205	-69.4			325.6	10.4	188.
42	187.8	10941	48.9	.260	138.7	.0218	-69.6			328.3	4.7	177.
43	181.6	11141	48.3	.266	136.8	.0231	-69.4			331.8	3.0	88.
44	175.5	11344	50.0	.285	141.7	.0244	-69.4			335.1	5.8	163.
45	169.5	11551	56.8	.335	161.2	.0259	-69.6			338.1	4.2	197.
46	163.9	11751	63.0	.384	179.0	.0275	-70.0			340.6	3.7	152.
47	158.0	11968	56.3	.356	160.3	.0292	-70.5			343.4	5.9	137.
48	152.5	12178	52.3	.343	149.4	.0307	-71.1			345.8	5.4	169.
49	147.0	12394	57.7	.393	165.7	.0323	-72.0			347.8	3.5	170.

STATION: SOUTH POLE LAUNCH DATE: 20 JUN 86 1245 Z ECC SONDE: 4A1891

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	142.5	12576	71.7	.503	206.6	.0339	-72.8			349.7	1.9	174.
51	137.9	12768	84.3	.611	242.9	.0359	-72.8			353.0	3.7	180.
52	133.2	12971	80.3	.603	231.8	.0382	-73.2			355.7	4.5	171.
53	128.8	13167	78.6	.610	226.9	.0403	-73.2			359.1	3.5	156.
54	124.5	13365	91.4	.734	263.8	.0426	-73.2			362.6	2.6	165.
55	120.2	13570	96.0	.799	278.7	.0452	-74.2			364.5	3.0	185.
56	116.0	13776	95.7	.825	278.8	.0478	-75.0			366.8	4.8	174.
57	111.8	13989	74.6	.667	217.6	.0503	-75.2			370.2	5.2	156.
58	107.5	14216	69.7	.648	203.8	.0526	-75.7			373.4	3.7	151.
59	103.2	14451	69.3	.672	203.3	.0548	-76.2			376.8	2.2	169.
60	99.0	14689	66.0	.667	194.7	.0570	-77.6			378.7	2.5	160.
61	95.6	14888	68.0	.711	201.7	.0589	-78.4			380.9	1.3	114.
62	92.2	15094	91.7	.995	272.5	.0611	-79.0			383.7	.5	104.
63	89.0	15294	99.9	1.122	297.1	.0638	-79.0			387.6	1.1	174.
64	85.9	15495	104.5	1.217	312.6	.0667	-80.2			389.2	1.9	160.
65	82.8	15702	111.8	1.350	335.5	.0698	-80.8			392.1	2.7	152.
66	79.6	15923	121.4	1.525	365.4	.0734	-81.4			395.2	1.1	91.
67	76.4	16153	129.2	1.691	389.7	.0775	-81.7			399.2	1.0	19.
68	73.2	16392	141.5	1.933	427.5	.0821	-82.0			403.5	1.3	274.
69	70.5	16602	141.4	2.006	427.1	.0863	-82.0			407.8	2.4	229.
70	68.0	16803	151.7	2.231	459.8	.0904	-82.6			410.7	3.6	194.
71	65.4	17020	148.4	2.269	451.2	.0950	-83.3			413.9	1.9	175.
72	62.9	17236	187.7	2.984	572.7	.1002	-84.0			417.0	1.1	12.
73	60.8	17423	168.1	2.765	513.9	.1050	-84.3			420.3	1.0	331.
74	58.5	17636	152.9	2.614	467.6	.1099	-84.3			425.0	.8	304.
75	56.3	17847	148.2	2.632	454.0	.1144	-84.7			428.9	1.7	327.
76	54.2	18056	142.6	2.631	438.2	.1188	-85.4			431.9	1.9	325.
77	52.0	18283	140.2	2.696	432.0	.1234	-85.7			436.2	1.8	350.
78	49.9	18508	140.0	2.806	433.0	.1280	-86.4			439.7	1.9	329.
79	48.0	18720	137.3	2.860	423.8	.1322	-86.1			445.5	7.0	282.
80	46.0	18952	139.0	3.022	431.7	.1368	-87.2			448.2	3.7	279.
81	44.0	19193	130.4	2.964	406.5	.1416	-88.0			452.0	1.8	118.
82	42.0	19445	129.0	3.071	403.2	.1463	-88.4			457.1	2.4	328.
83	40.0	19709	124.0	3.100	387.6	.1512	-88.4			463.5	5.4	325.
84	38.5	19915	116.2	3.018	363.2	.1548	-88.4			468.6	5.9	307.
85	37.0	20130	111.2	3.005	347.5	.1584	-88.4			474.0	4.9	287.
86	35.4	20369	110.5	3.121	345.3	.1623	-88.4			480.0	2.9	255.
87	34.0	20587	106.3	3.126	332.0	.1657	-88.4			485.6	.8	332.
88	33.0	20748	102.8	3.115	321.2	.1682	-88.4			489.7	4.3	11.
89	31.9	20931	95.0	2.978	296.7	.1708	-88.4			494.5	.8	48.
90	30.5	21173	89.7	2.941	280.3	.1741	-88.4			500.9	5.3	14.
91	29.1	21427	89.6	3.079	280.1	.1774	-88.4			507.6	9.4	10.
92	27.7	21693	87.2	3.148	272.9	.1808	-88.8			513.7	4.4	352.
93	26.3	21972	85.6	3.255	268.8	.1844	-89.2			520.2	5.1	327.
94	25.2	22201	82.0	3.254	258.0	.1872	-89.6			525.4	5.4	301.
95	24.2	22418	78.9	3.260	247.5	.1898	-89.2			532.7	.9	335.
96	23.2	22645	62.8	2.707	197.2	.1921	-89.2			539.2	1.8	5.
97	22.2	22882	61.2	2.757	192.1	.1943	-89.2			546.0	5.4	339.
98	21.3	23105	61.2	2.873	192.1	.1963	-89.2			552.5	5.3	358.
99	20.3	23364	58.9	2.901	184.4	.1986	-88.8			561.4	6.3	327.
100	19.6	23553	58.3	2.974	182.5	.2002	-88.8			567.1	7.0	345.
101	18.9	23749	58.0	3.069	181.3	.2019	-88.4			574.3	7.8	356.
102	18.1	23983	56.1	3.099	175.4	.2038	-88.4			581.4	9.5	322.
103	17.3	24227	54.5	3.150	170.3	.2058	-88.4			589.0	9.2	301.
104	16.6	24450	53.4	3.217	167.0	.2075	-88.4			595.9	6.5	294.

STATION: SOUTH POLE LAUNCH DATE: 20 JUN 86 1245 Z ECC SONDE: 4A1891

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
105	15.9	24683	54.1	3.403	169.0	.2094	-88.4			603.3	6.5	320.
106	15.0	24998	51.2	3.413	159.9	.2118	-88.4			613.5	8.2	328.
107	14.3	25256	50.7	3.545	158.4	.2137	-88.4			621.9	8.0	331.
108	13.7	25488	51.2	3.737	159.5	.2154	-88.0			630.9	6.3	327.
109	13.1	25731	47.9	3.656	149.0	.2172	-87.6			640.4	3.3	309.
110	12.5	25986	47.6	3.808	147.9	.2189	-87.2			650.4	2.0	327.
111	12.1	26163	47.3	3.909	146.7	.2202	-87.2			656.4	3.0	322.
112	11.3	26535	46.1	4.080	143.3	.2227	-87.6			668.0	5.1	317.
113	11.0	26681	42.5	3.864	132.0	.2236	-87.2			674.6	5.8	344.
114	10.5	26935	41.2	3.924	127.0	.2252	-85.7			689.0	6.5	9.
115	10.0	27203	37.9	3.790	116.5	.2267	-85.4			700.1	7.7	348.
116	9.8	27342	37.2	3.815	114.2	.2274	-85.0			706.5	14.5	13.
117	9.4	27567	38.1	4.071	116.6	.2286	-84.7			716.1	7.6	13.
118	9.0	27777	36.2	4.018	110.3	.2298	-84.0			726.6	4.5	333.
119	8.7	27952	34.8	3.986	105.7	.2307	-83.0			737.0	13.5	5.
120	8.5	28134	32.5	3.846	98.1	.2315	-82.0			747.7	12.0	357.
121	8.1	28399	28.5	3.536	85.9	.2327	-81.4			760.4	12.0	354.
122	7.7	28670	27.2	3.542	81.8	.2337	-81.4			770.9	11.7	340.
123	7.4	28878	27.2	3.676	81.8	.2345	-81.4			779.1	13.3	330.
124	7.1	29094	0.0	0.000	0.0	.2349	-81.4			787.8	16.0	336.
125	6.9	29270	0.0	0.000	0.0	.2349	-81.4			794.9	16.1	343.
126	6.7	29452	0.0	0.000	0.0	.2349	-81.1			803.6	14.6	346.
127	6.4	29693	0.0	0.000	0.0	.2349	-80.5			816.0	14.9	318.
128	6.1	29945	0.0	0.000	0.0	.2349	-80.5			826.5	16.9	297.
129	5.9	30161	0.0	0.000	0.0	.2349	-80.8			834.3	11.6	298.
130	5.7	30345	0.0	0.000	0.0	.2349	-80.8			842.2	7.3	303.
131	5.5	30547	0.0	0.000	0.0	.2349	-79.0			858.6	7.4	319.
132	5.3	30779	0.0	0.000	0.0	.2349	-78.4			871.2	7.4	326.
133	5.0	31055	0.0	0.000	0.0	.2349	-78.4			883.4	5.7	337.
134	4.8	31345	0.0	0.000	0.0	.2349	-78.7			895.1	8.2	345.
135	4.5	31638	0.0	0.000	0.0	.2349	-79.0			907.0	9.0	8.
136	4.4	31842	0.0	0.000	0.0	.2349	-79.0			916.3	10.0	17.
137	4.2	32067	0.0	0.000	0.0	.2349	-79.0			926.8	10.8	3.
138	4.1	32287	0.0	0.000	0.0	.2349	-79.0			937.1	10.9	356.
139	3.9	32516	0.0	0.000	0.0	.2349	-79.0			947.9	11.8	0.
140	3.7	32769	0.0	0.000	0.0	.2349	-79.3			958.7	11.4	9.
141	3.6	32987	0.0	0.000	0.0	.2349	-79.0			970.7	8.6	352.
142	3.4	33263	0.0	0.000	0.0	.2349	-78.7			985.7	5.1	330.
143	3.3	33519	0.0	0.000	0.0	.2349	-78.4			999.9	4.2	354.
144	3.1	33733	0.0	0.000	0.0	.2349	-77.9			1013.6	6.9	4.
145	3.0	33918	0.0	0.000	0.0	.2349	-77.6			1024.5	5.3	10.
146	3.0	34070	0.0	0.000	0.0	.2349	-77.6			1032.3	5.1	345.
147	2.9	34267	0.0	0.000	0.0	.2349	-77.0			1045.4	6.9	55.
148	2.8	34430	0.0	0.000	0.0	.2349	-75.7			1061.0	12.5	69.
149	2.7	34599	0.0	0.000	0.0	.2349	-74.5			1076.7	11.6	36.
150	2.6	34752	0.0	0.000	0.0	.2349	-73.7			1088.9	10.2	17.
151	2.6	34887	0.0	0.000	0.0	.2349	-72.8			1101.4	9.9	1.
152	2.5	35049	0.0	0.000	0.0	.2349	-72.8			1110.1	9.0	23.
153	2.4	35240	0.0	0.000	0.0	.2349	-71.8			1125.7	11.6	41.
154	2.4	35413	0.0	0.000	0.0	.2349	-70.0			1145.4	13.1	21.
155	2.3	35593	0.0	0.000	0.0	.2349	-68.5			1163.9	13.7	10.
156	2.2	35780	0.0	0.000	0.0	.2349	-66.8			1183.8	13.7	10.

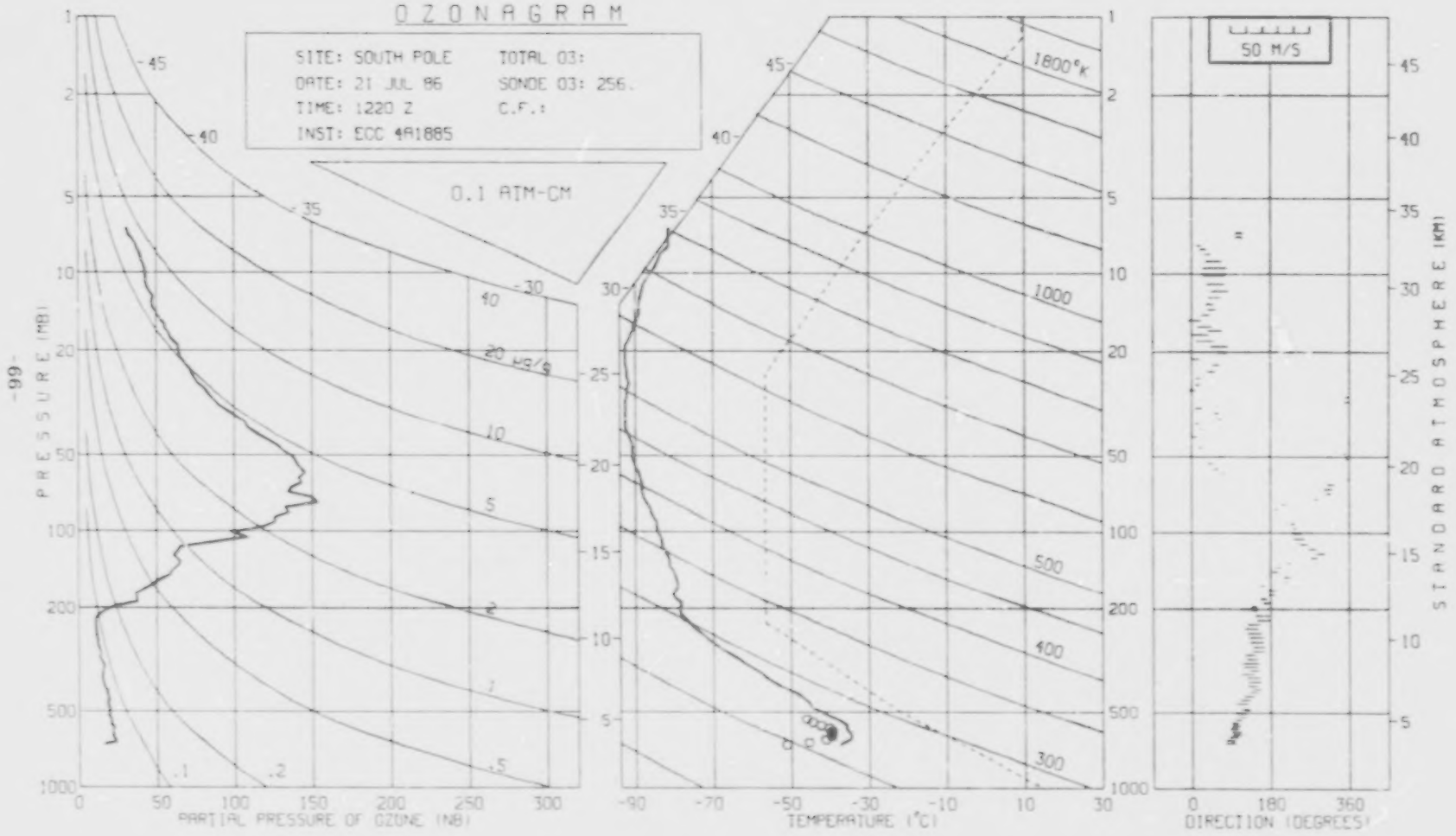
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.9	15.6	53.8	107.5	130.1	69.0	42.4	2.8

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS		
1110120068613	99	ECC	TOTAL O3 FROM SONDE DATA 256	
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF
1110220068613	680 20-62	500 20-45201 6	300 14-63188 8	200 51-69168 5
1110320068613	150 55-72169 5	100 67-77162 2	70143-82222 3	50140-86330 2
1110420068613	30 90-88 13	720.0 59-89335	710.0 38-85348 8	7.0 0-81340 16
1110520068613	5.0 0-78338 6	3.0 0-78176 5	661 19-47164 5	643 18-39164 5
1110620068613	564 18-40217 6	362 13-59207 8	263 18-67186 7	246 18-68181 8
1110720068613	221 44-68185 7	176 50-69163 6	164 63-70152 4	138 84-73180 4
1110820068613	129 79-73156 4	120 96-74185 3	116 96-75174 5	112 75-75156 5
1110920068613	96 68-78114 1	92 92-79104 1	89100-79174 1	73142-82274 1
1111020068613	68152-83194 4	65148-83175 2	63188-84 12 1	59153-84304 1
1111120068613	46139-87279	426.3 86-89327	524.2 79-89335	123.2 63-89 5 2
1111220068613	11.3 46-88317 5	8.1 29-81 -6 12	7.4 27-81330 13	7.1 0-81336 16
1111320068613	2.4 0-72 41 12	2.2 0-67 10 14		



-99-

BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 21 JUL 86 1220 Z ECC SONDE: 4A1885
SURFACE CONDITIONS: PRESSURE 685.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.7 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.5 ORD;
O3 ORD ZERO 31.8, BKGND 32.0, CAL 71.9; O3 BKGND .026 MICROAMP; FLOW RATE 29.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 256.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WINL M/S	WIND DEG
0	685.0	2800	15.6	.023	38.3	.0000	-37.8	-51.5	22.6	262.2		
1	670.0	2953	23.7	.035	57.9	.0003	-36.6	-45.8	38.8	265.2	5.9	87.
2	652.0	3142	22.9	.035	55.4	.0008	-35.0	-41.5	52.4	269.1	5.9	87.
3	633.0	3348	21.5	.034	52.1	.0014	-34.8	-39.9	60.6	271.7	5.6	95.
4	616.0	3538	21.8	.035	52.9	.0018	-35.0	-39.8	62.7	273.5	5.9	104.
5	600.0	3721	21.4	.036	52.1	.0023	-35.6	-39.8	66.2	274.9	6.2	100.
6	583.5	3914	22.4	.038	54.6	.0028	-36.2	-40.6	65.1	276.4	5.1	96.
7	567.0	4113	20.6	.036	50.2	.0032	-36.0	-42.8	50.2	279.0	4.5	100.
8	551.0	4311	20.5	.037	50.2	.0037	-37.3	-44.9	45.8	279.7	4.0	98.
9	535.0	4514	20.5	.038	50.4	.0042	-38.6	-46.4	44.4	280.4	4.1	106.
10	520.0	4708	19.2	.037	47.5	.0046	-40.4			280.6	4.6	115.
11	505.0	4906	19.6	.039	49.0	.0051	-42.0			281.0	4.8	112.
12	490.0	5109	19.6	.040	49.3	.0055	-43.5			281.5	3.2	126.
13	485.0	5177	19.1	.039	48.4	.0057	-44.8			280.8	5.3	121.
14	460.0	5530	18.7	.041	47.5	.0065	-45.6			284.0	7.7	114.
15	446.0	5735	19.1	.043	48.7	.0070	-46.8			285.1	6.3	122.
16	431.0	5961	17.8	.041	45.6	.0074	-48.1			286.3	6.2	131.
17	418.0	6162	18.2	.044	46.9	.0079	-49.7			286.7	5.8	141.
18	405.0	6367	16.4	.040	42.8	.0083	-51.8			286.6	6.3	147.
19	393.0	6561	15.9	.040	41.8	.0087	-53.6			286.7	6.6	138.
20	380.0	6776	15.0	.039	39.8	.0091	-55.4			287.1	7.5	142.
21	367.0	6997	15.1	.041	40.3	.0095	-56.9			288.0	7.9	140.
22	354.0	7224	15.5	.044	41.5	.0100	-58.0			289.5	7.7	128.
23	343.0	7422	15.8	.046	42.8	.0103	-59.6			290.0	5.8	142.
24	333.0	7606	16.2	.049	44.2	.0107	-61.0			290.5	8.7	133.
25	322.0	7813	14.9	.046	40.9	.0111	-62.6			291.1	10.8	135.
26	311.0	8026	13.6	.044	37.5	.0115	-64.1			291.5	7.0	137.
27	300.0	8245	13.9	.046	38.9	.0119	-66.0			292.2	6.6	134.
28	290.0	8449	13.5	.047	37.9	.0123	-67.7			292.7	7.4	151.
29	280.0	8659	12.2	.044	34.4	.0126	-69.1			293.5	8.1	152.
30	269.0	8897	12.2	.045	34.9	.0130	-70.9			294.3	9.0	148.
31	258.0	9143	11.3	.044	32.6	.0134	-72.3			295.8	9.0	146.
32	249.0	9351	11.3	.045	32.7	.0137	-73.7			296.7	9.0	143.
33	239.0	9589	10.8	.045	31.6	.0141	-75.2			298.0	8.8	137.
34	230.0	9810	10.8	.047	31.6	.0144	-76.2			299.7	7.7	142.
35	221.5	10026	10.8	.049	31.7	.0147	-77.3			301.3	7.9	162.
36	213.0	10249	13.4	.063	39.6	.0151	-78.4			302.9	8.4	160.
37	203.5	10509	17.6	.086	52.2	.0157	-78.7			306.5	6.0	138.
38	195.6	10734	24.7	.126	73.2	.0163	-78.4			310.4	3.0	142.
39	189.0	10929	37.7	.199	111.7	.0172	-78.4			313.5	3.8	169.
40	181.7	11152	37.3	.205	111.6	.0183	-79.9			314.7	4.5	163.
41	174.5	11380	36.9	.211	110.6	.0195	-80.5			317.3	4.4	183.
42	167.3	11618	42.8	.256	127.5	.0208	-79.6			322.7	4.7	184.
43	160.6	11849	48.2	.300	143.4	.0223	-79.3			326.9	3.1	161.
44	154.3	12076	52.0	.337	155.0	.0239	-79.6			330.2	1.9	214.
45	147.9	12316	58.4	.395	174.5	.0257	-79.9			333.7	3.7	218.
46	141.9	12550	60.3	.425	180.7	.0277	-80.5			336.7	3.7	191.
47	136.2	12780	64.0	.470	192.8	.0297	-81.4			339.0	2.5	198.
48	130.6	13015	65.1	.498	196.0	.0318	-81.4			343.1	2.0	221.
49	125.0	13260	61.3	.490	184.9	.0340	-81.7			346.9	3.0	280.

STATION: SOUTH POLE LAUNCH DATE: 21 JUL 86 1220 Z ECC SONDE: 4A1885

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	120.3	13474	63.5	.528	192.0	.0359	-82.3			349.5	5.5	294.
51	115.5	13701	65.6	.568	199.5	.0380	-83.3			351.8	4.8	276.
52	110.6	13942	86.1	.778	261.9	.0406	-83.3			356.2	4.7	256.
53	105.8	14188	108.0	1.021	328.9	.0440	-83.6			360.1	7.2	245.
54	101.0	14445	98.9	.979	302.3	.0478	-84.3			363.6	4.5	242.
55	96.5	14696	118.7	1.230	363.4	.0517	-84.7			367.7	1.7	235.
56	92.6	14923	125.7	1.357	385.0	.0556	-84.7			372.0	3.2	230.
57	88.5	15172	126.2	1.426	388.0	.0601	-85.4			375.5	.2	336.
58	85.0	15393	135.0	1.588	416.6	.0643	-86.1			378.4	.8	61.
59	81.5	15623	133.1	1.633	411.5	.0688	-86.4			382.2	1.8	193.
60	78.1	15855	152.9	1.958	474.9	.0736	-87.2			385.3	2.1	210.
61	74.6	16104	149.8	2.008	467.1	.0790	-88.0			388.8	1.6	285.
62	71.0	16371	134.6	1.896	420.6	.0845	-88.4			393.4	3.1	313.
63	68.0	16604	136.7	2.010	427.2	.0892	-88.4			398.3	4.7	312.
64	65.0	16848	143.1	2.202	447.1	.0942	-88.4			403.5	4.2	318.
65	62.0	17103	141.3	2.279	442.3	.0995	-88.8			408.1	.8	359.
66	59.0	17370	145.1	2.459	455.4	.1051	-89.2			413.0	1.5	70.
67	56.1	17640	141.4	2.520	445.7	.1108	-90.0			417.1	2.6	55.
68	53.2	17924	139.6	2.624	441.0	.1167	-90.5			422.4	2.7	42.
69	50.9	18160	137.7	2.705	436.2	.1215	-90.9			426.8	2.0	358.
70	48.6	18406	132.4	2.724	419.3	.1264	-90.9			432.5	2.0	350.
71	46.3	18664	128.0	2.765	405.5	.1314	-90.9			438.5	2.0	20.
72	44.0	18935	121.6	2.764	386.1	.1364	-91.3			443.8	1.4	359.
73	41.8	19207	115.3	2.758	367.0	.1412	-91.8			449.3	1.7	6.
74	39.4	19520	108.8	2.761	348.2	.1465	-92.7			454.6	2.7	23.
75	37.3	19809	106.5	2.855	340.8	.1511	-92.7			461.7	2.8	12.
76	35.8	20025	101.2	2.827	323.8	.1545	-92.7			467.2	1.8	62.
77	34.2	20266	96.6	2.825	309.0	.1580	-92.7			473.3	2.5	56.
78	32.6	20519	90.8	2.785	290.6	.1616	-92.7			479.8	4.1	15.
79	31.0	20784	87.1	2.810	278.7	.1651	-92.7			486.8	4.9	355.
80	29.6	21028	84.0	2.838	268.3	.1682	-92.3			494.6	3.1	355.
81	28.1	21303	81.3	2.893	259.4	.1716	-92.3			502.0	3.0	0.
82	26.8	21554	76.7	2.862	244.1	.1746	-91.8			510.1	2.5	13.
83	25.2	21880	73.9	2.933	235.7	.1782	-92.3			517.8	3.1	13.
84	23.8	22182	72.1	3.029	230.2	.1815	-92.3			526.4	4.4	43.
85	22.5	22479	68.7	3.053	219.8	.1847	-92.7			533.5	4.0	55.
86	21.3	22768	65.6	3.080	210.0	.1876	-92.7			541.9	3.4	9.
87	20.1	23074	64.7	3.219	207.1	.1905	-92.7			550.9	5.9	71.
88	19.0	23371	64.0	3.368	204.7	.1934	-92.7			559.5	11.2	63.
89	18.0	23657	59.7	3.317	190.0	.1960	-91.8			571.5	11.7	29.
90	17.0	23961	58.0	3.412	184.2	.1987	-91.3			582.4	9.9	19.
91	16.4	24152	55.6	3.390	175.6	.2003	-90.5			591.3	9.2	53.
92	15.8	24351	55.6	3.519	175.7	.2019	-90.5			597.6	8.9	28.
93	15.0	24629	52.5	3.500	165.1	.2042	-89.6			609.4	8.1	6.
94	14.3	24886	50.4	3.524	158.3	.2061	-89.2			619.2	5.6	30.
95	13.6	25156	47.8	3.515	149.9	.2080	-89.2			628.1	5.4	46.
96	13.0	25399	47.4	3.646	148.8	.2097	-89.2			636.2	4.4	40.
97	12.3	25697	48.0	3.902	150.3	.2118	-88.8			647.8	7.9	51.
98	11.6	26013	44.9	3.871	140.3	.2140	-88.4			660.2	11.0	63.
99	10.9	26350	43.5	3.991	135.6	.2161	-88.0			673.5	10.8	54.
100	10.1	26765	43.2	4.277	133.6	.2187	-86.4			694.0	14.2	51.
101	9.5	27124	42.5	4.493	130.4	.2210	-85.0			712.6	14.8	52.
102	8.9	27442	40.5	4.535	123.8	.2228	-84.3			727.1	10.2	49.
103	8.4	27787	39.4	4.696	120.2	.2248	-83.6			742.8	4.3	34.
104	8.0	28038	37.6	4.688	113.7	.2262	-82.0			759.0	4.0	25.

STATION: SOUTH POLE LAUNCH DATE: 21 JUL 86 1220 Z ECC SONDE: 4A1885

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
105	7.7	28237	36.9	4.767	111.0	.2272	-81.4			769.2	2.7	16.
106	7.4	28466	35.1	4.724	106.0	.2284	-81.7			777.0	.3	32.
107	7.1	28697	32.6	4.572	98.1	.2295	-81.4			787.5	4.6	108.
108	6.8	28930	31.9	4.664	96.0	.2305	-81.4			796.9	4.6	108.
109	6.6	29113	30.8	4.653	92.8	.2313	-81.4			804.3		

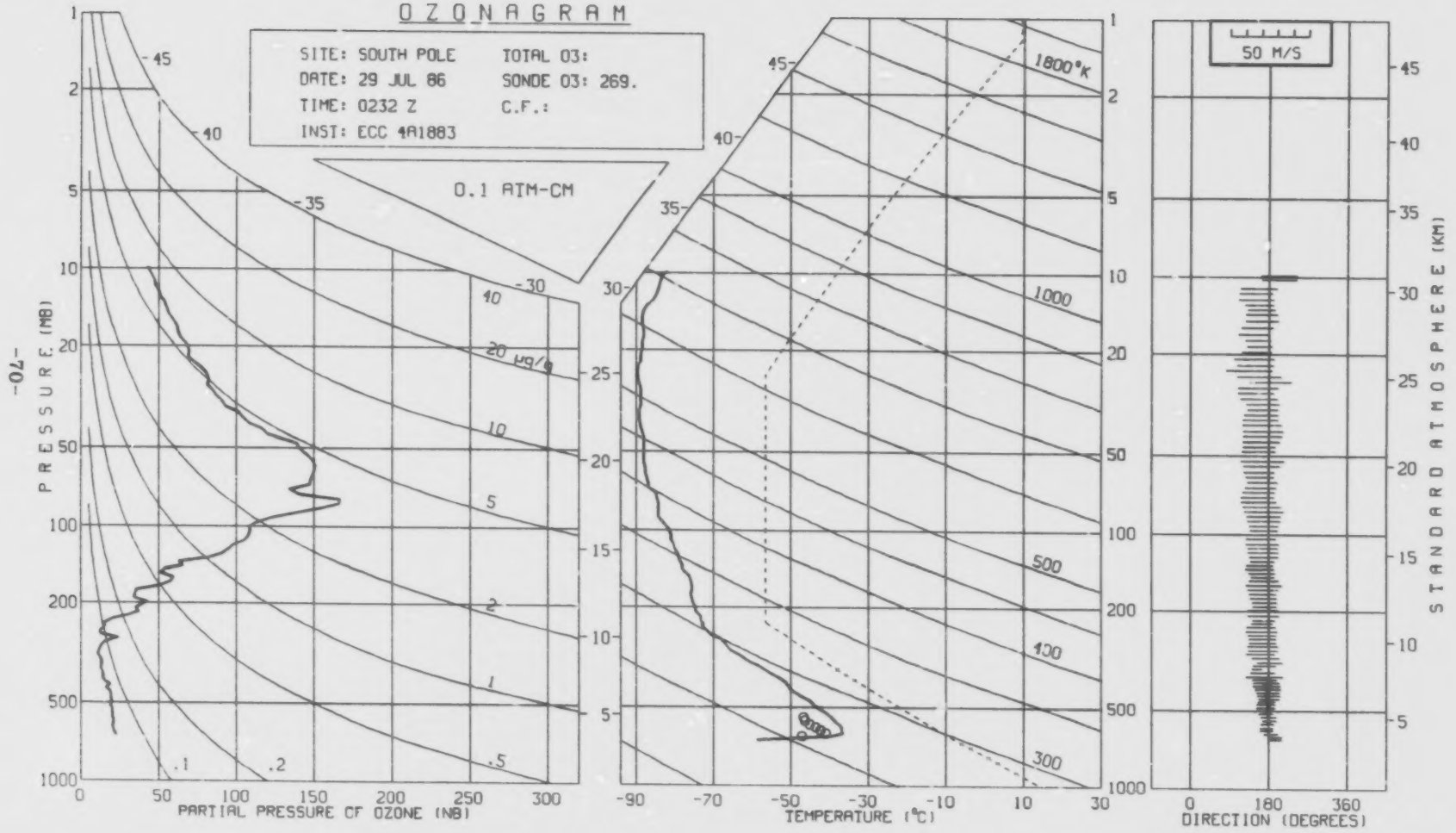
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
21.1	15.5	37.2	118.1	120.5	69.1	44.8	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110121078612	99	ECC	TOTAL O3 FROM SONDE DATA 256		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110221078612	685 16-38	500 20-42117	4 300 14-66134	7 200 21-79140	5
1110321078612	150 56-80217	3 100103-84240	4 70135-88313	4 50136-91 -5	2
1110421078612	30 85-92 -5	420.0 65-93 70	610.0 43-86 51	14 7.0 32-81108	5
1110521078612	652 23-35 87	6 567 21-36100	5 239 11-75137	9 189 38-78169	4
1110621078612	175 37-81183	4 116 66-83276	5 106108-84245	7 97119-85235	2
1110721078612	82133-86193	2 78153-87210	2 59145-89 70	2 6.6 31-81	



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 29 JUL 86 232 Z ECC SONDE: 4A1883
SURFACE CONDITIONS: PRESSURE 666.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.5 ORD;
O3 ORD ZERO 32.9, BKGND 33.1, CAL 70.9; O3 BKGND .028 MICROAMP; FLOW RATE 28.4 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 269.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	666.1	2800	22.8	.034	61.5	.0000	-58.9			240.6		
1	643.5	3026	21.3	.033	52.6	.0006	-39.7	-47.4	44.2	264.8	7.8	196.
2	628.5	3188	20.7	.033	50.7	.0010	-36.8	-41.3	64.6	269.9	7.8	196.
3	612.0	3372	20.3	.033	49.6	.0014	-37.1	-42.6	57.9	271.6	8.9	185.
4	595.0	3566	20.8	.035	50.9	.0019	-37.2	-43.9	50.7	273.6	7.9	175.
5	580.0	3742	20.8	.036	51.0	.0023	-37.9	-45.4	46.0	274.9	7.9	175.
6	562.0	3958	20.3	.036	50.0	.0028	-39.1	-46.6	46.0	275.9	8.1	177.
7	546.5	4149	20.3	.037	50.1	.0033	-39.8	-47.0	47.1	277.3	8.6	182.
8	530.0	4357	20.2	.038	50.2	.0037	-41.0			278.3	10.2	180.
9	513.0	4578	19.2	.037	47.9	.0043	-42.3			279.4	10.0	173.
10	500.0	4751	19.6	.039	49.2	.0046	-43.5			279.9	10.2	169.
11	486.0	4941	19.6	.040	49.5	.0051	-44.6			280.8	11.7	173.
12	472.0	5136	19.2	.041	48.6	.0055	-45.3			282.3	11.9	174.
13	460.0	5307	19.2	.042	48.9	.0059	-46.6			282.8	11.0	175.
14	447.0	5496	18.6	.042	47.7	.0064	-47.9			283.5	13.0	180.
15	433.0	5705	16.2	.037	41.8	.0068	-49.3			284.4	14.9	180.
16	420.0	5904	18.6	.044	48.2	.0072	-50.4			285.4	14.7	179.
17	407.0	6108	15.3	.038	39.7	.0076	-50.9			287.3	16.5	178.
18	393.0	6335	14.3	.036	37.3	.0080	-51.5			289.4	17.5	175.
19	382.0	6518	14.3	.037	37.3	.0084	-52.7			290.2	16.7	174.
20	370.0	6723	13.9	.038	36.5	.0087	-54.0			291.2	15.4	171.
21	359.0	6916	12.9	.036	34.3	.0090	-55.6			291.5	23.8	170.
22	346.0	7150	13.3	.038	35.6	.0094	-57.2			292.4	15.9	166.
23	334.0	7372	13.3	.040	35.8	.0098	-58.9			293.0	6.6	153.
24	324.0	7561	12.3	.038	33.5	.0101	-60.7			293.2	14.6	176.
25	314.0	7755	10.9	.035	29.9	.0104	-62.3			293.5	16.0	182.
26	303.0	7974	11.8	.039	32.6	.0107	-63.8			294.4	17.5	172.
27	292.0	8199	13.1	.045	36.6	.0111	-65.8			294.8	18.4	161.
28	282.5	8399	15.4	.055	43.1	.0114	-66.6			296.4	18.9	167.
29	272.0	8627	23.0	.085	64.5	.0120	-67.4			298.5	19.2	166.
30	264.0	8806	12.6	.048	35.6	.0124	-68.5			299.5	17.1	165.
31	256.0	8989	12.6	.049	35.8	.0127	-70.7			298.9	17.2	166.
32	247.0	9200	15.6	.063	44.7	.0131	-71.8			300.2	18.4	165.
33	239.0	9393	15.1	.063	43.7	.0135	-73.0			301.3	20.1	163.
34	230.0	9618	20.5	.089	59.0	.0141	-73.0			304.6	18.5	162.
35	223.0	9798	30.0	.135	86.7	.0147	-73.5			306.6	13.4	164.
36	216.5	9971	37.0	.171	107.1	.0155	-73.5			309.2	14.0	168.
37	209.0	10176	35.3	.169	102.8	.0165	-74.7			310.4	20.1	167.
38	198.5	10475	42.4	.214	123.5	.0180	-75.0			314.6	19.6	167.
39	192.1	10664	34.3	.179	100.1	.0190	-75.5			316.7	15.2	170.
40	185.7	10860	34.8	.187	101.7	.0200	-75.8			319.4	15.9	170.
41	179.3	11062	35.9	.200	105.0	.0209	-76.0			322.1	16.9	167.
42	173.0	11268	50.5	.292	147.6	.0222	-75.8			325.9	17.5	166.
43	166.5	11489	57.5	.345	168.3	.0238	-75.8			329.5	19.2	166.
44	160.0	11719	59.3	.371	173.5	.0256	-76.0			332.8	22.7	168.
45	153.7	11950	51.5	.335	151.0	.0274	-76.3			336.2	18.9	168.
46	148.4	12151	54.0	.364	159.3	.0288	-77.4			337.7	14.6	166.
47	143.2	12355	65.4	.457	193.7	.0305	-78.2			339.7	17.1	164.
48	138.0	12566	63.4	.459	187.8	.0324	-78.2			343.3	18.1	159.
49	132.9	12780	81.9	.616	243.2	.0346	-78.8			346.0	16.5	159.

STATION: SOUTH POLE LAUNCH DATE: 29 JUL 86 232 Z ECC SONDE: 4A1083

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	127.8	13002	90.9	.711	270.4	.0372	-79.1			349.4	15.2	165.
51	122.7	13233	95.0	.774	283.6	.0402	-79.6			352.4	18.2	169.
52	117.6	13473	98.3	.836	294.2	.0435	-80.2			355.6	19.5	167.
53	113.0	13698	105.3	.932	315.7	.0467	-80.5			359.1	19.0	166.
54	108.8	13911	107.7	.990	323.9	.0498	-81.1			361.9	21.1	165.
55	103.7	14180	108.9	1.050	327.4	.0539	-81.1			366.9	18.9	162.
56	100.4	14361	108.6	1.082	327.2	.0567	-81.5			369.7	17.3	165.
57	96.6	14577	113.1	1.171	342.4	.0601	-82.4			371.9	18.0	169.
58	92.9	14794	121.8	1.311	370.5	.0637	-83.4			374.1	18.5	169.
59	89.0	15031	135.7	1.525	415.2	.0681	-84.4			376.7	21.0	169.
60	85.3	15265	153.1	1.795	468.4	.0729	-84.4			381.3	21.9	169.
61	81.7	15503	166.1	2.033	508.2	.0783	-84.4			386.0	24.5	169.
62	78.3	15737	166.3	2.124	508.8	.0839	-84.4			390.7	24.5	165.
63	75.1	15967	140.6	1.872	430.9	.0890	-84.8			394.7	22.3	158.
64	72.0	16199	134.3	1.865	412.5	.0935	-85.1			398.7	21.1	154.
65	68.9	16440	147.3	2.138	456.7	.0984	-87.0			399.8	20.1	157.
66	66.0	16674	147.7	2.238	458.1	.1034	-87.0			404.7	19.9	162.
67	63.0	16927	149.1	2.367	463.3	.1089	-87.4			409.3	19.1	165.
68	60.3	17165	150.1	2.489	467.6	.1141	-87.8			413.6	17.6	160.
69	57.9	17385	150.6	2.601	469.0	.1189	-87.8			418.4	19.3	158.
70	55.1	17653	148.0	2.686	462.1	.1247	-88.2			423.5	23.0	164.
71	52.6	17904	144.3	2.743	450.4	.1301	-88.2			429.1	27.2	165.
72	50.0	18178	140.2	2.804	437.5	.1358	-88.2			435.4	24.9	163.
73	48.0	18399	138.9	2.894	433.5	.1403	-88.2			440.5	21.2	157.
74	45.9	18641	129.7	2.826	404.8	.1450	-88.2			446.2	20.4	158.
75	43.8	18894	120.0	2.740	374.7	.1496	-88.2			452.2	23.2	163.
76	41.6	19172	116.5	2.800	364.3	.1544	-88.6			457.9	24.7	165.
77	39.6	19438	108.4	2.737	339.7	.1588	-89.0			463.3	25.4	167.
78	37.4	19745	104.0	2.781	326.7	.1636	-89.4			469.9	24.9	164.
79	35.6	20010	101.2	2.843	317.8	.1676	-89.4			476.6	22.4	160.
80	34.0	20257	93.4	2.747	293.5	.1711	-89.4			482.9	21.5	162.
81	32.5	20500	91.1	2.803	285.6	.1744	-89.0			490.2	18.9	166.
82	31.0	20754	87.5	2.823	274.2	.1777	-89.0			496.9	20.9	166.
83	29.5	21021	85.1	2.885	266.8	.1811	-89.0			504.0	23.4	157.
84	28.1	21283	81.2	2.890	254.7	.1843	-89.0			511.0	22.8	150.
85	26.9	21518	82.4	3.063	258.7	.1871	-89.4			516.3	25.3	155.
86	25.5	21805	81.1	3.180	255.5	.1905	-89.8			523.0	27.1	184.
87	24.2	22085	78.0	3.223	245.7	.1938	-89.8			530.9	27.9	157.
88	23.0	22358	73.1	3.178	230.3	.1969	-89.8			538.7	29.2	134.
89	22.0	22597	69.1	3.141	216.8	.1994	-89.0			548.1	23.3	149.
90	20.7	22925	69.7	3.367	218.4	.2027	-89.0			557.7	25.3	146.
91	19.6	23219	68.0	3.469	212.8	.2057	-88.6			567.7	18.5	152.
92	18.6	23502	64.4	3.462	201.3	.2084	-88.6			576 3	15.6	158.
93	17.7	23770	62.5	3.531	195.2	.2109	-88.2			585.8	16.3	155.
94	16.8	24052	62.1	3.696	193.9	.2134	-88.2			594.6	19.4	146.
95	15.8	24384	59.2	3.747	185.3	.2164	-88.6			603.8	20.0	153.
96	14.9	24701	56.3	3.779	176.1	.2191	-88.6			614.0	21.0	164.
97	14.0	25038	55.0	3.929	171.7	.2218	-88.2			626.4	20.1	163.
98	13.4	25275	53.6	4.000	166.6	.2237	-87.4			637.0	17.5	162.
99	12.8	25525	51.2	4.000	157.8	.2256	-85.9			650.6	18.6	157.
100	12.2	25788	50.5	4.139	155.2	.2275	-85.1			662.1	22.5	151.
101	11.5	26114	48.0	4.174	146.8	.2298	-84.4			675.9	21.1	150.
102	11.0	26359	47.4	4.309	144.6	.2315	-84.1			685.8	23.3	157.
103	10.2	26777	44.6	4.373	135.6	.2342	-83.4			703.3	22.6	203.
104	9.9	26960	43.1	4.367	130.3	.2353	-82.1			714.9	22.6	203.

STATION: SOUTH POLE LAUNCH DATE: 29 JUL 86 232 Z ECC SONDE: 4A1883

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG

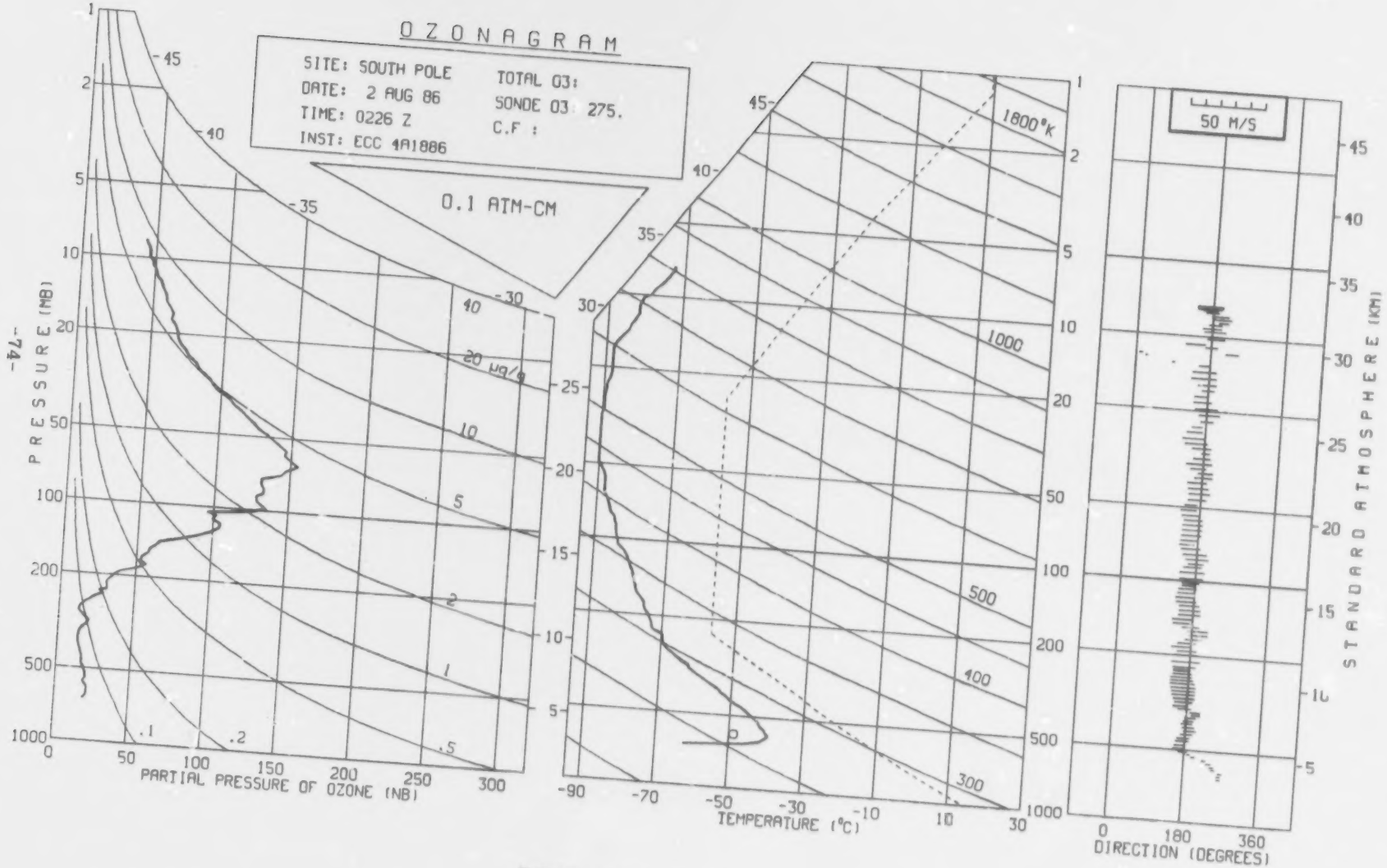
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
20.5	15.3	47.3	129.8	123.0	72.6	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS					
1110129078603	99	ECC TOTAL O3 FROM SONDE DATA 269					
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF			
1110229078603	666 23-59	500 20-44169	10 300 12-64169	18 200 41-75167	20		
1110329078603	150 53-77167	16 100109-82165	17 70143-86156	20 50140-88163	25		
1110429078603	30 86-89160	2320.0 69-89150	2110.0 44-83203	23 644 21-40196	8		
1110529078603	629 21-37196	8 393 14-52175	18 272 23-67166	19 264 13-69165	17		
1110629078603	239 15-73163	20 217 37-74168	14 179 36-76167	17 173 51-76166	18		
1110729078603	160 59-76168	23 143 65-78164	17 138 63-78159	18 128 91-79165	15		
1110829078603	93122-83169	19 82166-84169	25 78166-84165	25 75141-85158	22		
1110929078603	72134-85154	21 58151-88158	19 40108-89167	2514.0 55-88163	20		
1111029078603	9.9 43-82203	23					



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 2 AUG 86 226 Z ECC SONDE: 4A1886
SURFACE CONDITIONS: PRESSURE 666.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 72.9 ORD;
O3 ORD ZERO 29.8, BKGND 29.9, CAL 69.1; O3 BKGND .013 MICROAMP; FLOW RATE 27.0 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 : SONDE TOTAL O3 275.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	666.5	2800	19.1	.029	52.3	.0000	-62.5			236.5		
1	647.0	2990	20.6	032	52.5	.0005	-46.6			256.5	2.7	266.
2	630.0	3168	21.4	.034	53.5	.0009	-42.0			263.8	2.7	266.
3	611.5	3370	21.4	.035	53.0	.0014	-40.6			267.6	3.0	268.
4	594.0	3568	21.4	.036	52.9	.0019	-39.8	-49.0	37.6	270.8	2.4	252.
5	580.0	3730	19.6	.034	48.8	.0023	-40.5			271.9	2.9	247.
6	563.0	3932	18.7	.033	46.5	.0027	-40.9			273.7	3.5	240.
7	547.0	4127	20.2	.037	50.6	.0032	-42.0			274.7	3.0	228.
8	533.0	4302	19.8	.037	49.6	.0036	-42.4			276.2	3.0	201.
9	521.0	4455	19.8	.038	49.7	.0039	-43.0			277.3	4.4	187.
10	509.0	4611	18.9	.037	47.6	.0043	-43.7			278.3	5.7	176.
11	493.0	4825	18.1	.037	45.9	.0048	-44.9			279.4	7.0	166.
12	478.0	5031	16.9	.035	42.8	.0052	-45.9			280.6	8.3	169.
13	460.0	5285	16.9	.037	43.1	.0057	-47.5			281.7	9.0	173.
14	447.0	5473	16.8	.038	43.2	.0061	-49.1			282.0	8.8	176.
15	432.0	5696	15.9	.037	41.4	.0065	-50.8			282.7	8.3	183.
16	419.0	5894	15.5	.037	40.4	.0069	-51.8			283.8	8.4	190.
17	406.0	6097	14.6	.036	38.3	.0073	-53.2			284.6	8.6	186.
18	392.0	6322	13.7	.035	36.3	.0077	-54.3			286.0	7.7	181.
19	382.0	6487	13.7	.036	36.4	.0079	-55.6			286.4	6.9	186.
20	370.0	6689	13.7	.037	36.6	.0083	-56.9			287.3	7.1	190.
21	360.0	6862	14.1	.039	37.8	.0086	-58.1			288.0	5.8	202.
22	350.0	7038	14.4	.041	38.9	.0089	-59.5			288.4	6.9	200.
23	338.0	7255	16.0	.047	43.5	.0093	-60.9			289.4	9.2	174.
24	327.0	7460	18.8	.057	51.4	.0098	-62.2			290.4	10.3	164.
25	316.0	7671	20.3	.064	55.7	.0103	-62.5			292.7	12.2	171.
26	304.5	7898	17.5	.057	48.3	.0109	-64.4			293.2	14.8	171.
27	292.0	8153	14.6	.050	40.6	.0114	-65.8			294.8	16.0	169.
28	282.0	8364	13.0	.046	36.4	.0118	-67.0			296.0	15.9	168.
29	272.0	8581	14.2	.052	40.0	.0122	-68.5			296.9	16.7	167.
30	262.0	8804	16.9	.065	48.0	.0126	-69.6			298.5	16.7	165.
31	253.0	9012	20.3	.080	57.7	.0131	-69.8			301.2	15.4	162.
32	246.0	9179	23.4	.095	66.5	.0136	-70.0			303.3	14.5	161.
33	238.0	9375	28.7	.121	81.6	.0143	-70.0			306.2	12.9	163.
34	232.5	9513	26.4	.114	75.4	.0148	-71.1			306.5	10.6	161.
35	229.0	9602	31.2	.136	89.9	.0152	-72.5			305.7	11.1	162.
36	224.0	9731	31.1	.139	89.6	.0157	-73.0			306.9	15.8	167.
37	212.0	10053	31.0	.146	89.6	.0170	-73.2			311.4	19.5	169.
38	199.2	10416	35.8	.180	104.0	.0187	-74.2			315.4	15.9	170.
39	192.0	10630	40.0	.208	116.7	.0198	-75.0			317.6	13.2	170.
40	185.2	10833	50.3	.272	147.0	.0211	-75.5			320.0	13.8	156.
41	178.5	11052	56.3	.315	164.3	.0226	-75.5			323.4	12.0	168.
42	171.8	11273	52.6	.306	154.3	.0243	-76.3			325.7	11.2	185.
43	165.2	11498	53.6	.324	157.9	.0259	-77.4			327.5	12.5	195.
44	159.6	11695	57.8	.362	171.0	.0274	-77.9			329.8	13.4	194.
45	154.0	11899	58.4	.379	173.0	.0291	-78.2			332.7	11.5	175.
46	148.4	12110	62.0	.418	184.0	.0308	-78.5			335.8	11.8	154.
47	143.0	12321	65.3	.457	194.0	.0327	-78.8			338.9	13.3	154.
48	137.5	12544	79.6	.579	236.8	.0349	-79.1			342.2	15.0	171.
49	132.0	12775	91.3	.692	272.5	.0377	-79.6			345.1	14.4	170.

STATION: SOUTH POLE LAUNCH DATE: 2 AUG 86 226 Z ECC SONDE: 4A1886

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND W/S	WIND DEG
50	126.5	13015	99.5	.787	297.8	.0409	-80.2			348.3	13.5	168.
51	122.0	13219	104.0	.852	311.8	.0438	-80.5			351.4	13.7	161.
52	117.1	13449	104.7	.894	314.8	.0472	-81.1			354.4	11.9	156.
53	112.5	13674	99.6	.885	300.6	.0504	-81.8			357.3	11.9	159.
54	108.2	13891	101.7	.940	308.9	.0535	-83.1			358.8	12.3	162
55	105.2	14047	96.6	.918	294.4	.0557	-83.7			360.4	9.9	164.
56	102.2	14207	123.4	1.207	376.3	.0582	-83.7			363.4	11.3	169.
57	98.3	14422	134.5	1.368	410.6	.0622	-84.1			366.8	15.5	170.
58	91.9	14794	128.5	1.398	393.1	.0691	-84.4			373.3	16.9	170.
59	87.2	15084	128.0	1.468	391.5	.0745	-84.4			378.9	12.5	170.
60	84.6	15251	132.5	1.566	406.1	.0776	-84.8			381.5	10.4	178.
61	81.8	15490	132.6	1.637	407.2	.0821	-85.1			385.5	15.1	180.
62	77.4	15739	130.7	1.689	403.7	.0868	-86.2			388.3	16.1	174.
63	73.9	15992	130.9	1.77.	405.0	.0916	-86.8			392.7	12.8	163.
64	70.9	16218	143.6	2.025	445.2	.0961	-87.0			396.5	10.2	153.
65	68.0	16445	146.9	2.160	456.4	.1009	-87.4			400.5	11.2	156.
66	65.0	16689	154.3	2.374	481.5	.1062	-88.2			403.9	13.4	162.
67	62.0	16945	150.0	2.419	468.3	.1119	-88.2			409.4	14.0	163.
68	59.0	17213	145.2	2.461	453.2	.1177	-88.2			415.3	13.6	164.
69	56.5	17447	146.3	2.589	456.5	.1227	-88.2			420.4	12.4	164.
70	54.0	17691	142.1	2.631	444.4	.1278	-88.6			425.0	12.4	158.
71	51.5	17946	137.4	2.668	431.8	.1331	-89.4			428.8	10.8	152.
72	49.0	18213	132.7	2.708	418.7	.1384	-90.3			433.0	8.8	158.
73	46.6	18482	126.7	2.719	400.0	.1435	-90.3			439.2	12.0	171.
74	44.1	18777	122.4	2.776	386.3	.1489	-90.3			446.2	14.4	175.
75	42.0	19038	118.2	2.814	373.2	.1535	-90.3			452.5	13.8	171.
76	40.0	19299	114.4	2.860	361.1	.1580	-90.3			458.8	13.3	168.
77	38.0	19573	109.2	2.874	344.6	.1626	-90.3			465.6	12.0	182.
78	36.3	19818	106.6	2.937	336.5	.1664	-90.3			471.7	10.1	186.
79	34.7	20059	103.0	2.968	325.1	.1702	-90.3			477.8	11.0	168.
80	33.0	20328	97.2	2.945	306.8	.1741	-90.3			484.7	17.3	169.
81	31.3	20611	93.9	3.000	296.4	.1781	-90.3			492.1	11.6	175.
82	29.8	20874	92.1	3.091	290.8	.1817	-89.8			500.2	5.7	184.
83	28.3	21151	87.6	3.095	275.8	.1854	-89.8			507.7	12.8	173.
84	27.1	21383	83.9	3.096	264.3	.1883	-89.8			514.0	15.2	159.
85	25.8	21646	81.9	3.174	258.0	.1915	-89.8			521.3	14.7	151.
86	24.3	21968	76.5	3.148	240.5	.1953	-89.4			531.5	10.9	153.
87	23.2	22217	74.6	3.216	234.5	.1980	-89.4			538.6	7.6	158.
88	22.0	22503	71.1	3.232	222.5	.2011	-88.6			549.3	8.8	182.
89	20.8	22806	68.5	3.293	213.8	.2042	-88.2			559.4	14.1	186.
90	19.6	23127	68.1	3.474	212.6	.2074	-88.2			569.0	15.3	178.
91	18.4	23469	66.2	3.598	206.5	.2107	-88.2			579.3	12.2	167.
92	17.5	23740	63.3	3.617	197.7	.2133	-88.2			587.7	9.7	164.
93	16.6	24026	64.2	3.867	200.2	.2160	-88.2			596.6	8.5	179.
94	15.7	24328	62.1	3.955	192.9	.2187	-87.4			608.8	12.5	176.
95	14.8	24650	59.3	4.007	182.9	.2216	-85.9			624.2	17.3	167.
96	14.0	24956	58.9	4.207	180.2	.2242	-84.4			639.0	16.2	167.
97	13.2	25281	56.3	4.265	171.8	.2268	-83.7			652.2	7.0	164.
98	12.9	25408	55.7	4.318	169.3	.2278	-83.1			658.8	2.0	91.
99	12.3	25673	54.7	4.447	165.6	.2299	-82.4			670.2	1.6	24.
100	12.0	25811	52.4	4.367	158.0	.2310	-81.8			677.2	2.3	11.
101	11.7	25952	51.6	4.410	155.8	.2320	-81.8			682.1	9.0	231.
102	11.1	26247	50.7	4.568	153.0	.2341	-81.8			692.4	8.4	180.
103	10.8	26400	49.0	4.537	147.5	.2352	-81.5			699.0	13.6	142.
104	10.2	26721	48.3	4.735	144.9	.2374	-80.8			712.8	12.0	190.

STATION: SOUTH POLE LAUNCH DATE: 2 AUG 86 226 Z ECC SONDE: 4A1886

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	10.0	26855	46.1	4.629	137.2	.2383	-79.1			724.4	11.7	200.
106	9.5	27124	46.1	4.853	136.5	.2400	-78.2			737.5	14.7	186.
107	9.2	27307	46.2	5.022	136.1	.2412	-77.4			747.5	13.0	179.
108	8.9	27497	45.2	5.079	132.5	.2424	-76.3			758.7	8.7	186.
109	8.7	27641	44.0	5.069	128.6	.2433	-75.5			767.2	7.2	206.
110	8.4	27817	43.0	5.107	125.2	.2443	-75.0			776.0	11.5	205.
111	8.2	27970	0.0	0.000	0.0	.2447	-74.2			784.8	11.5	197.
112	8.0	28143	0.0	0.000	0.0	.2447	-73.7			793.5	8.8	178.
113	7.8	28261	0.0	0.000	0.0	.2447	-73.0			801.0	9.4	172.
114	7.7	28336	0.0	0.000	0.0	.2447	-73.0			804.0	15.8	171.
115	7.6	28404	0.0	0.000	0.0	.2447	-73.0			806.7	17.0	172.
116	7.5	28481	0.0	0.000	0.0	.2447	-73.0			809.7	17.0	172.

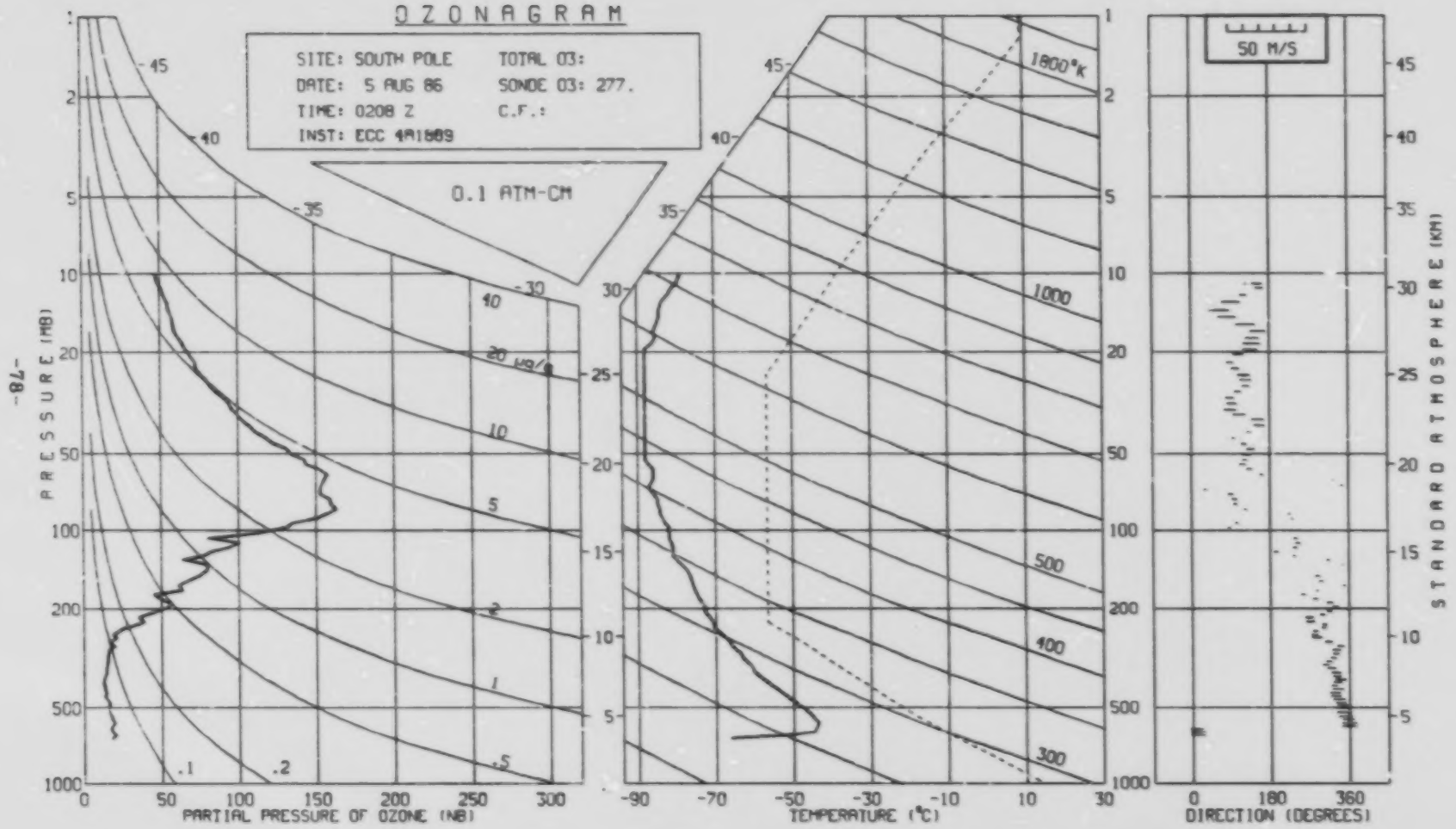
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
20.1	16.1	52.1	126.4	123.0	74.4	47.0	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110102088602	99	ECC	TOTAL O3 FROM SONDE DATA 275		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110202088602	667 19-63	500 18-44170	6 300 16-65170	15 200 35-74170	16
1110302088602	150 61-78160	12 100130-84170	14 70145-87154	1: 50135-90156	10
1110402088602	30 92-90183	720.0 68-88181	1510.8 46-79198	12 647 21-47266	3
1110502088602	630 21-42266	3 594 21-40252	2 262 17-70165	17 179 56-76158	12
1110602088602	143 65-79154	13 127108-80168	14 117105-81156	12 105 97-84164	10
1110702088602	102123-84169	11 74131-87163	13 65154-88162	1316.6 64-88179	9
1110802088602	8.4 43-75205	12 8.2 0-74197	12 7.5 0-73172	17	



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 5 AUG 86 208 Z ECC SONDE: 4A1889
SURFACE CONDITIONS: PRESSURE 661.2 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 72.5 ORD;
O3 ORD ZERO 31.6, BKGND 32.2, CAL 69.0; O3 BKGND .084 MICROAMP; FLOW RATE 27.7 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 277.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	661.2	2800	17.8	.027	49.8	.0000	-66.4			232.7		
1	641.5	2989	20.4	.032	53.2	.0005	-51.7			251.5	9.1	11.
2	623.0	3161	18.4	.030	46.6	.0009	-44.8			261.4	9.1	11.
3	606.0	3366	17.4	.029	44.8	.0013	-44.5			263.8	8.1	8.
4	590.0	3545	17.8	.030	45.0	.0017	-44.1			266.4	9.3	359.
5	572.0	3752	19.6	.034	49.4	.0021	-43.9			268.9	9.1	360.
6	555.0	3954	18.1	.033	45.7	.0026	-44.8			270.2	7.9	357.
7	540.0	4137	17.6	.033	44.6	.0030	-45.3			271.7	8.5	350.
8	521.0	4375	16.6	.032	42.4	.0034	-46.5			273.1	8.9	347.
9	504.0	4594	15.6	.031	40.0	.0039	-47.6			274.3	8.0	342.
10	490.0	4779	16.5	.034	42.5	.0042	-49.0			274.9	6.5	343.
11	479.0	4927	16.3	.034	42.0	.0045	-49.6			275.9	6.5	340.
12	465.0	5120	14.9	.032	38.6	.0049	-50.9			276.6	7.5	336.
13	451.0	5318	13.4	.030	35.1	.0052	-52.1			277.5	6.2	329.
14	439.0	5492	14.4	.033	37.7	.0055	-53.2			278.3	6.5	327.
15	425.0	5700	13.3	.031	35.2	.0059	-54.5			279.3	7.2	333.
16	412.0	5898	13.3	.032	35.4	.0062	-55.8			280.1	3.8	325.
17	399.0	6101	12.4	.031	33.1	.0065	-56.9			281.2	5.0	333.
18	388.0	6277	12.9	.033	34.5	.0068	-58.1			281.9	6.7	339.
19	376.0	6474	13.6	.036	36.6	.0071	-58.9			283.3	4.7	332.
20	364.0	6676	14.4	.040	39.1	.0075	-60.2			284.3	5.6	329.
21	350.0	6920	14.4	.041	39.2	.0079	-60.7			286.8	5.0	319.
22	340.0	7100	14.8	.044	40.4	.0083	-61.2			288.4	3.3	306.
23	330.0	7284	15.2	.046	41.7	.0086	-62.3			289.4	3.7	314.
24	319.0	7492	15.2	.048	41.9	.0090	-63.3			290.9	3.4	324.
25	308.0	7707	15.6	.051	43.1	.0095	-63.8			293.1	3.4	330.
26	298.0	7908	16.1	.054	44.6	.0099	-65.2			293.9	4.5	331.
27	288.0	8115	20.0	.069	55.7	.0104	-66.0			295.7	4.1	341.
28	277.0	8350	16.6	.060	46.4	.0109	-66.6			298.1	4.6	313.
29	266.0	8594	21.4	.080	60.2	.0115	-67.8			299.8	6.1	286.
30	259.0	8754	18.8	.073	53.0	.0119	-68.5			301.1	3.7	281.
31	250.0	8965	22.3	.089	63.2	.0125	-69.6			302.0	3.1	283.
32	242.0	9153	25.7	.106	73.3	.0131	-70.7			303.7	2.4	302.
33	234.0	9357	33.8	.144	96.4	.0139	-70.7			306.6	2.5	304.
34	227.0	9537	38.8	.171	110.8	.0148	-70.9			309.0	5.1	271.
35	218.0	9776	35.4	.162	101.6	.0160	-71.8			311.1	4.9	269.
36	212.0	9940	40.4	.191	116.3	.0168	-72.5			312.5	3.5	299.
37	205.0	10137	47.4	.231	136.6	.0180	-73.0			314.8	3.4	315.
38	196.8	10376	55.0	.279	158.7	.0196	-73.0			318.5	3.1	329.
39	188.9	10615	56.1	.297	162.5	.0214	-73.7			321.1	3.7	316.
40	182.0	10831	48.8	.268	141.9	.0230	-74.5			323.3	3.3	283.
41	175.6	11039	45.8	.261	133.5	.0243	-75.0			325.8	2.4	255.
42	169.0	11261	63.8	.378	186.3	.0260	-75.5			328.5	1.2	288.
43	162.0	11505	61.7	.381	180.8	.0280	-76.0			331.6	2.0	349.
44	155.3	11748	67.4	.434	197.7	.0302	-76.3			335.2	3.0	297.
45	148.4	12009	74.8	.504	219.9	.0327	-76.8			338.7	3.0	288.
46	142.6	12237	79.1	.555	233.3	.0352	-77.4			341.6	.2	174.
47	138.0	12424	80.4	.583	238.2	.0372	-78.2			343.3	.5	127.
48	133.6	12608	77.9	.583	231.8	.0393	-79.1			345.0	.7	346.
49	129.0	12806	65.4	.507	195.7	.0412	-80.2			346.3	1.7	313

STATION: SOUTH POLE LAUNCH DATE: 5 AUG 86 298 Z ECC SONDE: 4A1889

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	124.7	12997	77.5	.621	233.0	.0431	-81.1			348.1	1.6	235.
51	120.2	13203	82.9	.690	249.2	.0455	-81.1			351.7	2.9	193.
52	116.0	13403	93.6	.807	281.3	.0480	-81.1			355.3	2.2	237.
53	111.4	13630	99.8	.896	300.5	.0510	-81.5			358.9	3.2	244.
54	107.0	13855	82.2	.768	248.3	.0539	-82.1			361.8	2.0	238.
55	102.4	14100	112.9	1.103	341.2	.0573	-82.1			366.4	.6	44.
56	97.9	14351	130.9	1.337	395.5	.0616	-82.1			371.1	1.8	85.
57	93.8	14589	134.8	1.437	409.5	.0661	-83.1			373.8	1.5	103.
58	90.0	14818	150.0	1.667	457.1	.0708	-83.7			376.9	1.1	230.
59	86.4	15044	156.7	1.814	479.3	.0757	-84.4			379.9	1.3	224.
60	82.8	15279	163.0	1.969	498.7	.0811	-84.3			384.6	1.9	123.
61	79.0	15538	159.3	2.016	489.3	.0871	-85.1			388.3	2.2	100.
62	75.5	15787	158.8	2.103	487.8	.0927	-85.1			393.4	2.8	98.
63	72.0	16047	152.5	2.118	471.1	.0986	-86.2			396.4	3.0	89.
64	69.1	16271	152.6	2.208	473.4	.1035	-87.0			399.5	1.8	31.
65	66.0	16521	153.6	2.327	476.3	.1091	-87.0			404.7	2.0	345.
66	63.0	16775	155.1	2.462	479.2	.1147	-86.2			411.8	.7	326.
67	60.0	17042	157.2	2.620	485.6	.1207	-86.2			417.6	2.3	161.
68	57.3	17294	151.7	2.647	468.6	.1264	-86.2			423.1	3.7	132.
69	55.0	17517	143.4	2.607	445.6	.1311	-87.4			425.5	3.7	117.
70	52.7	17748	142.4	2.702	444.4	.1359	-88.2			428.9	3.3	122.
71	50.4	17989	134.4	2.667	419.4	.1408	-88.2			434.4	4.7	127.
72	48.0	18253	131.2	2.733	409.5	.1459	-88.2			440.5	4.9	136.
73	45.9	18495	122.5	2.669	382.2	.1504	-88.2			446.2	3.8	121.
74	43.5	18785	117.8	2.708	367.6	.1555	-88.2			453.1	1.9	96.
75	41.3	19066	111.2	2.692	347.2	.1602	-88.2			459.8	4.1	136.
76	39.1	19362	106.9	2.734	333.6	.1649	-88.2			467.1	7.3	155.
77	37.0	19661	102.0	2.757	318.4	.1694	-88.2			474.5	7.8	153.
78	35.4	19900	99.7	2.816	311.1	.1730	-88.2			480.5	7.8	110.
79	33.9	20134	96.3	2.841	300.7	.1763	-88.2			486.5	7.2	89.
80	32.2	20412	94.6	2.938	295.2	.1802	-88.2			493.7	5.8	93.
81	30.7	20670	90.9	2.961	283.8	.1837	-88.2			500.5	5.0	89.
82	28.9	20997	85.3	2.952	266.3	.1879	-88.2			509.2	3.8	107.
83	27.6	21246	82.4	2.986	257.3	.1909	-88.2			515.9	4.3	126.
84	26.1	21548	79.9	3.061	249.4	.1945	-88.2			524.2	7.2	125.
85	24.8	21824	76.7	3.093	239.5	.1977	-88.2			532.0	8.1	121.
86	23.3	22162	73.1	3.137	228.0	.2013	-88.2			541.5	4.5	102.
87	22.0	22473	72.8	3.309	227.4	.2046	-88.2			550.5	4.3	89.
88	20.4	22882	69.2	3.392	216.1	.2089	-88.2			562.5	6.5	109.
89	19.5	23126	66.8	3.426	208.6	.2113	-88.2			569.8	9.3	136.
90	18.5	23412	64.6	3.492	199.4	.2140	-86.2			584.5	10.9	139.
91	17.6	23685	62.1	3.528	191.1	.2165	-85.5			595.2	8.6	141.
92	16.6	24006	59.7	3.596	184.1	.2193	-85.9			604.0	9.8	154.
93	15.6	24347	58.7	3.763	180.1	.2222	-85.1			617.2	12.4	125.
94	14.6	24712	57.9	3.966	177.1	.2253	-84.4			631.4	11.3	83.
95	13.7	25063	55.8	4.073	170.6	.2281	-84.4			643.0	13.1	65.
96	12.8	25439	55.0	4.297	167.7	.2311	-83.7			658.0	11.5	92.
97	12.0	25798	52.7	4.392	159.4	.2338	-82.1			676.1	4.3	120.
98	11.3	26135	51.2	4.531	153.9	.2363	-81.1			691.2	5.0	157.
99	10.9	26338	49.3	4.523	147.4	.2377	-79.9			702.8	11.5	144.
100	10.0	26827	47.2	4.720	140.3	.2410	-78.8			724.6	11.5	144.

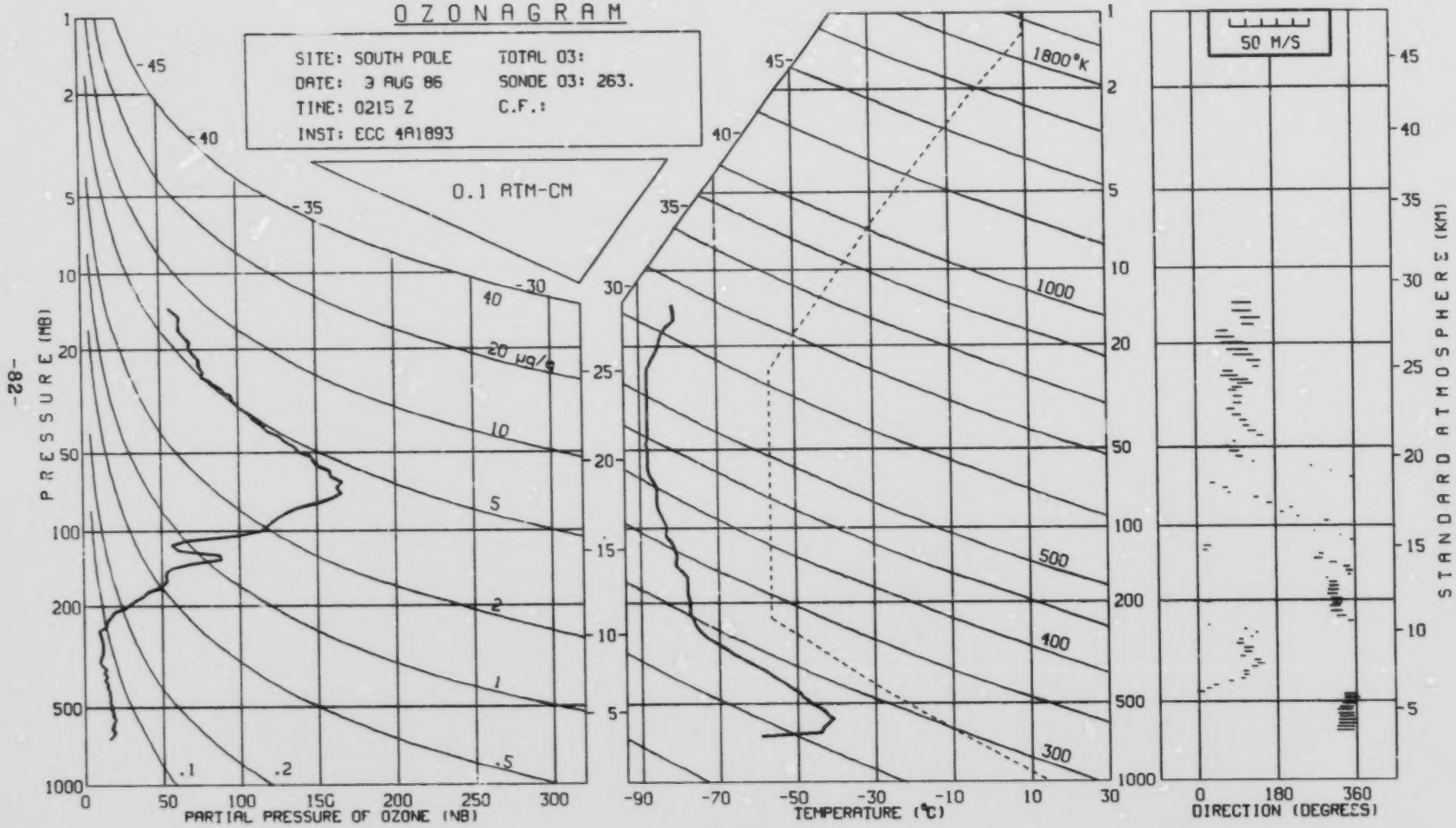
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
18.0	15.6	55.8	132.9	121.8	72.7	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	ISXXX XP T CORR	COMMENTS			
1110105088602	99	ECC	TOTAL O3 FROM SONDE DATA 277		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110205088602	661 18-66	500 16-48342	8 300 16-65331	4 200 52-73323	3
1110305088602	150 73-77290	3 100122-82 60	1 70153-87 49	2 50134-88128	5
1110405088602	30 89-88 96	520.0 68-88121	8 642 20-52 11	9 623 18-45 11	9
1110505088602	572 20-44 0	9 388 13-58339	7 242 26-71302	2 189 56-74316	4
1110605088602	176 46-75255	2 169 64-76288	1 138 80-78127	1 129 65-80313	2
1110705088602	125 78-81235	2 111100-82244	3 107 82-82238	2 83163-84123	2
1110805088602	60157-86161	212.8 55-84 92	1210.0 47-79144 12		



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE. 9 AUG 86 215 Z ECC SONDE: 4A1893
SURFACE CONDITIONS: PRESSURE 666.8 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.5 ORD; HUM 33.0 % AT 77.5 ORD; TBOX 30.0 C AT 73.7 ORD;
O3 ORD ZERO 32.9, BKGND 33.5, CAL 70.7; O3 BKGND .083 MICROAMP; FLOW RATE 29.5 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 : SONDE TOTAL O3 263.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	666.8	2800	15.7	.024	42.5	.0000	-59.5			239.9		
1	646.5	3000	17.7	.027	44.6	.0004	-44.2			259.3	11.0	335.
2	627.0	3205	19.0	.030	47.9	.0009	-43.9			261.9	11.0	335.
3	610.0	3389	17.1	.028	42.9	.0012	-43.0			265.1	11.6	339.
4	592.0	3591	18.2	.031	45.6	.0017	-42.1			268.4	11.4	339.
5	575.5	3782	18.5	.032	46.1	.0021	-41.0			271.8	9.6	338.
6	560.0	3967	19.5	.035	48.7	.0025	-42.3			272.5	10.3	336.
7	540.0	4212	18.0	.033	45.2	.0030	-43.1			274.4	9.5	334.
8	528.0	4363	18.1	.034	45.5	.0033	-44.1			274.9	8.3	338.
9	512.0	4568	17.2	.034	43.5	.0038	-45.5			275.7	9.0	344.
10	499.0	4738	17.6	.035	45.0	.0041	-46.9			276.0	9.7	353.
11	482.0	4967	16.4	.034	42.1	.0046	-47.9			277.4	9.6	350.
12	468.0	5161	15.9	.034	40.9	.0050	-49.0			278.5	7.0	345.
13	453.0	5374	16.4	.036	42.2	.0054	-49.4			280.6	4.5	4.
14	440.0	5564	15.9	.036	41.2	.0057	-50.8			281.2	3.2	22.
15	426.0	5773	15.8	.037	41.4	.0061	-52.1			282.1	3.4	39.
16	412.0	5988	14.3	.035	37.6	.0065	-53.4			283.2	2.9	74.
17	400.0	6177	14.8	.037	39.1	.0069	-54.8			283.7	2.6	101.
18	387.0	6387	12.8	.033	34.0	.0072	-56.3			284.5	2.7	109.
19	374.0	6603	14.5	.039	38.9	.0076	-57.6			285.5	3.0	108.
20	361.0	6825	12.6	.035	33.9	.0080	-59.3			286.1	3.5	128.
21	350.0	7018	13.9	.040	38.0	.0083	-61.1			286.3	4.1	143.
22	339.0	7215	11.0	.032	30.3	.0086	-62.9			286.4	3.6	135.
23	327.0	7436	10.0	.031	27.8	.0089	-64.6			287.0	3.0	101.
24	316.0	7644	10.5	.033	29.3	.0092	-66.4			287.4	4.5	113.
25	304.0	7877	11.9	.039	33.4	.0095	-68.0			288.2	5.7	115.
26	293.0	8097	11.9	.041	33.7	.0099	-69.8			288.8	4.2	95.
27	284.0	8282	11.8	.042	33.8	.0102	-71.3			289.2	2.6	97.
28	275.0	8471	11.7	.043	33.6	.0105	-72.8			289.8	1.2	122.
29	265.0	8687	11.1	.042	32.3	.0108	-74.0			291.1	1.2	134.
30	257.0	8865	10.2	.040	29.6	.0111	-75.0			292.2	1.1	108.
31	248.0	9071	9.7	.039	28.3	.0114	-75.8			294.0	.9	24.
32	240.0	9260	13.9	.058	40.8	.0117	-76.3			296.0	3.3	349.
33	230.0	9505	14.3	.062	42.1	.0121	-76.8			298.8	5.6	328.
34	220.0	9760	17.1	.078	50.4	.0127	-77.6			301.4	7.2	317.
35	210.0	10026	19.8	.094	58.4	.0134	-77.6			305.4	6.5	314.
36	205.0	10164	26.0	.127	76.9	.0138	-77.6			307.5	5.9	319.
37	197.6	10374	29.6	.150	87.3	.0146	-77.6			310.7	5.9	317.
38	189.2	10622	34.0	.180	100.4	.0157	-77.9			314.2	6.5	308.
39	182.8	10818	38.5	.211	114.2	.0167	-78.2			316.8	6.8	311.
40	176.0	11034	41.1	.234	121.8	.0179	-78.2			320.3	6.1	311.
41	169.5	11248	48.3	.285	143.0	.0192	-78.2			323.7	4.4	310.
42	163.2	11464	51.6	.316	152.8	.0207	-78.2			327.3	1.5	296.
43	157.0	11685	53.6	.341	158.8	.0223	-78.2			330.9	2.1	347.
44	151.0	11907	52.6	.348	156.5	.0239	-79.1			333.1	4.6	347.
45	145.0	12136	53.3	.368	159.5	.0256	-80.2			335.0	4.0	341.
46	139.8	12341	56.7	.406	170.5	.0272	-81.1			336.9	4.3	310.
47	134.3	12566	69.1	.515	207.8	.0292	-81.1			340.8	5.1	276.
48	128.9	12796	88.3	.685	265.1	.0317	-80.8			345.3	2.7	283.
49	123.8	13023	87.5	.707	263.0	.0345	-81.1			348.8	2.9	17.

STATION: SOUTH POLE LAUNCH DATE: 9 AUG 86 215 Z ECC SONDE: 4A1893

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	118.8	13254	60.9	.513	183.3	.0370	-81.5			352.3	4.4	22.
51	113.6	13504	56.7	.499	171.5	.0390	-82.1			355.7	3.6	356.
52	109.0	13734	66.0	.606	200.9	.0410	-83.4			357.4	1.1	327.
53	104.6	13962	96.5	.923	294.3	.0437	-83.7			361.0	.6	268.
54	100.3	14195	113.9	1.136	346.4	.0472	-83.4			366.0	1.9	304.
55	96.4	14415	117.9	1.223	359.4	.0508	-83.7			369.5	2.6	297.
56	92.4	14649	121.8	1.318	372.6	.0548	-84.4			372.7	1.7	230.
57	88.9	14862	125.3	1.409	384.0	.0586	-84.8			376.1	2.2	195.
58	85.3	15089	130.8	1.533	402.4	.0627	-85.5			379.1	2.1	216.
59	81.9	15312	137.1	1.674	422.6	.0670	-85.9			382.8	3.2	166.
60	78.2	15565	151.3	1.935	466.6	.0723	-85.9			387.9	2.6	136.
61	74.9	15801	160.2	2.139	493.9	.0776	-85.9			392.7	1.5	74.
62	71.9	16025	165.3	2.299	509.6	.0828	-85.9			397.3	2.9	65.
63	68.7	16274	162.4	2.364	501.6	.0887	-86.2			401.8	2.9	36.
64	65.6	16526	165.8	2.527	514.2	.0947	-87.0			405.4	1.6	354.
65	62.5	16789	158.7	2.539	494.2	.1009	-87.8			409.4	.7	308.
66	59.4	17064	158.0	2.660	493.1	.1073	-88.2			414.5	.8	263.
67	57.0	17287	151.2	2.653	471.8	.1123	-88.2			419.4	1.5	130.
68	54.6	17520	147.9	2.709	461.6	.1174	-88.2			424.6	4.4	98.
69	52.1	17773	146.2	2.806	456.4	.1228	-88.2			430.3	5.9	87.
70	49.8	18017	138.1	2.773	431.0	.1279	-88.2			435.9	4.3	68.
71	47.3	18295	135.6	2.867	424.1	.1334	-88.6			441.4	1.1	87.
72	44.9	18576	128.7	2.866	401.6	.1389	-88.2			449.0	4.3	146.
73	43.0	18810	125.7	2.923	392.5	.1432	-88.2			454.6	5.5	127.
74	41.0	19068	118.1	2.880	368.5	.1478	-88.2			460.8	4.1	114.
75	39.1	19325	115.4	2.951	360.1	.1522	-88.2			467.1	4.7	107.
76	37.2	19594	109.7	2.949	342.5	.1566	-88.2			473.8	5.5	92.
77	35.3	19878	106.7	3.023	332.9	.1611	-88.2			480.9	5.0	79.
78	33.5	20161	100.4	2.997	313.5	.1653	-88.2			488.2	4.7	95.
79	31.6	20477	96.9	3.066	302.5	.1699	-88.2			496.4	5.3	96.
80	30.0	20758	95.3	3.177	297.5	.1738	-88.2			503.8	5.3	84.
81	29.2	20904	91.1	3.120	284.3	.1758	-88.2			507.7	6.1	95.
82	28.2	21092	89.1	3.160	278.1	.1783	-88.2			512.8	9.4	113.
83	27.3	21267	84.8	3.106	264.7	.1805	-88.2			517.6	11.6	99.
84	26.3	21469	81.6	3.103	254.7	.1830	-88.2			523.1	11.1	77.
85	25.4	21657	76.5	3.012	238.9	.1851	-88.2			528.3	6.1	74.
86	24.3	21896	77.7	3.198	242.5	.1878	-88.2			535.1	4.0	138.
87	23.1	22170	75.1	3.251	233.3	.1909	-87.4			545.2	8.3	134.
88	22.0	22436	75.1	3.414	232.4	.1938	-86.6			555.1	12.8	109.
89	21.0	22690	71.9	3.424	221.7	.1965	-85.9			564.8	13.4	97.
90	19.8	23013	68.6	3.465	210.7	.1997	-85.1			576.6	13.5	86.
91	18.8	23298	69.2	3.681	212.2	.2026	-84.8			586.3	12.3	68.
92	17.8	23599	66.1	3.713	202.3	.2055	-84.4			596.6	7.6	61.
93	16.7	23952	62.6	3.749	190.1	.2087	-83.1			612.0	7.4	121.
94	15.7	24297	62.2	3.962	187.0	.2117	-81.1			629.2	12.2	127.
95	14.7	24667	62.7	4.265	188.5	.2150	-81.1			641.1	12.4	107.
96	13.6	25104	56.1	4.125	168.9	.2186	-81.5			654.5	12.4	107.

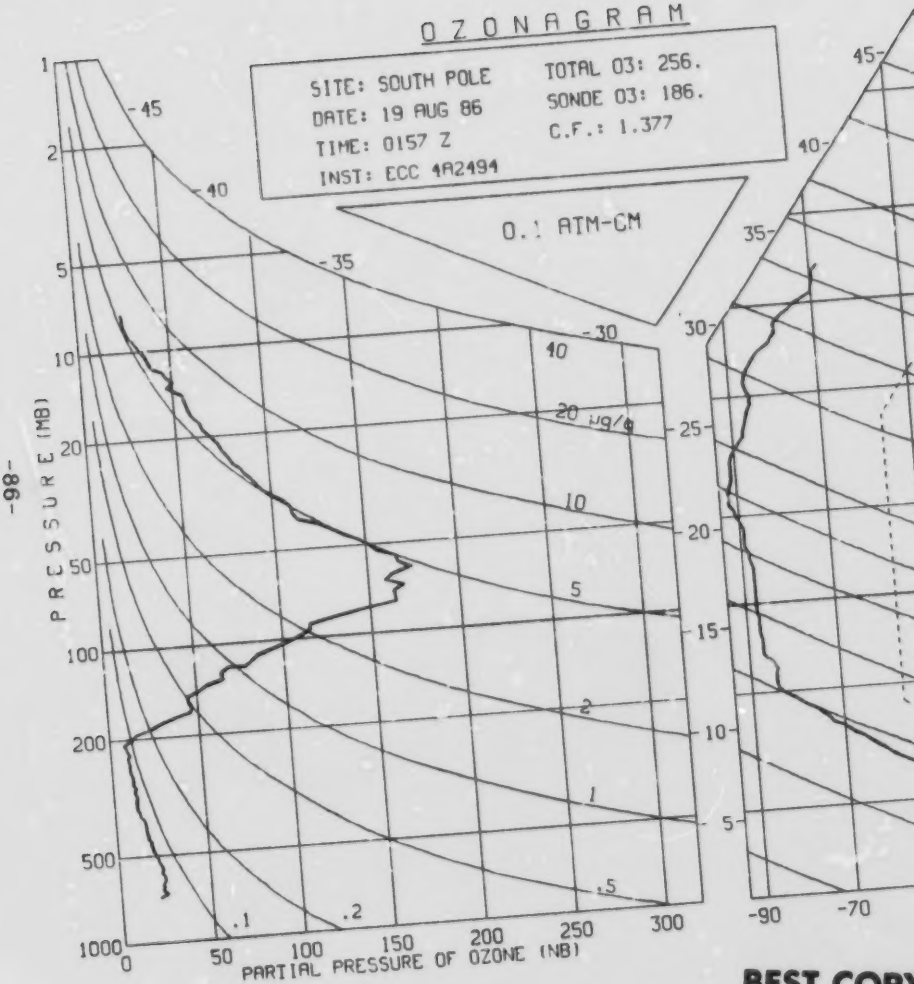
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
18.0	13.2	41.3	122.6	127.6	75.4	999.9	999.9

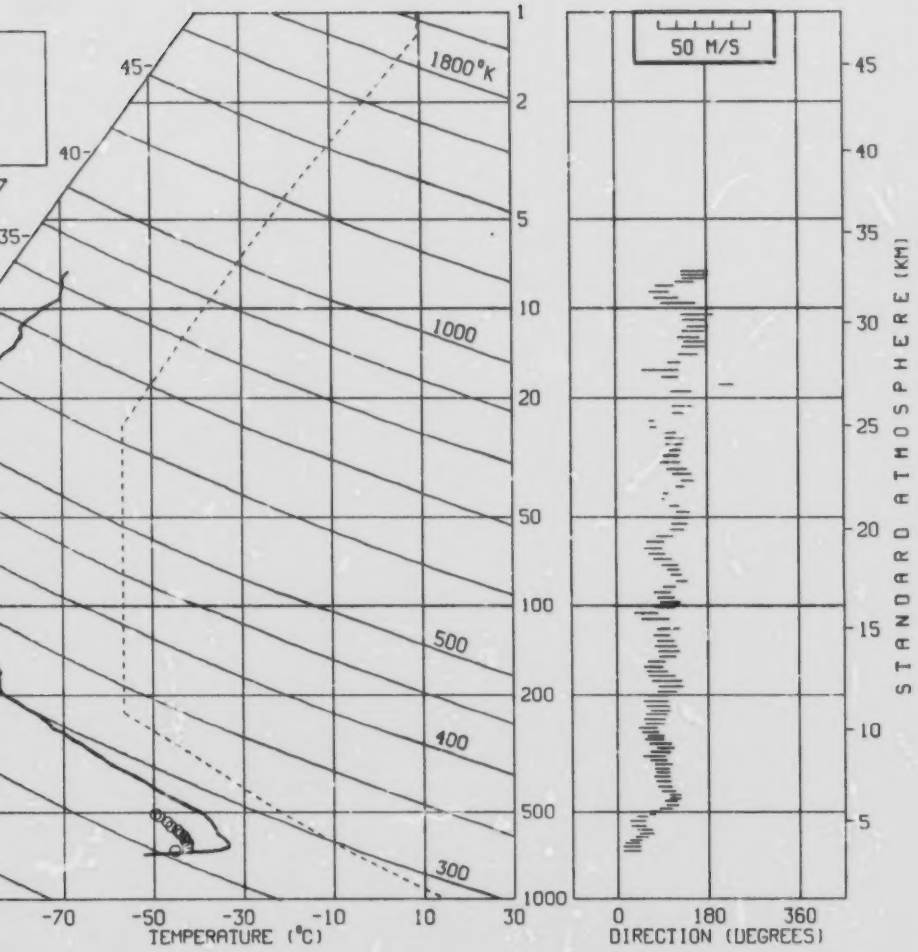
CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110109088602           99        ECC    TOTAL O3 FROM SONDE DATA  263
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110209088602    667 16-60       500 18-47 -8 10 300 12-69108  5 200 28-78318  8
1110309088602    150 53-79346  5 100114-83303  2  70164-86 48  3  50139-88 70  4
1110409088602     30 95-88 84  520.0 69-85 88 13 647 18-44335 11 576 19-41338 10
1110509088602    412 14-53 74  3 248 10-76 24  1 163 52-78296  2 140 57-81310  4
1110609088602    129 88-81283  3 124 88-81 17  3 119 61-82 22  4 114 57-82 -4  4
1110709088602    109 66-83327  1 105 97-84268  1  66166-87 -6  224.3 78-88138  4
1110809088602   15.7 62-81127 1213.6 56-82107 12
```


OZONAGRAM
SITE: SOUTH POLE
DATE: 19 AUG 86
TIME: 0157 Z
INST: ECC 4A2494
TOTAL O3: 256.
SONDE O3: 186.
C.F.: 1.377
0.1 ATM-CM
PRESSURE (MB)
PARTIAL PRESSURE OF OZONE (NB)
-45
-40
-35
-30
40
20 µg/g
10
5
2
1
.5
.1
.2
1
2
5
10
20
50
100
200
500
1000
0
50
100
150
200
250
300
45
40
35
30
25
20
15
10
5
-90
-70

BEST COPY



T COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 19 AUG 86 157 Z ECC SONDE: 4A2494
SURFACE CONDITIONS: PRESSURE 692.2 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.7 ORD;
O3 ORD ZERO 32.7, BKGND 33.2, CAL 69.5; O3 BKGND .071 MICROAMP; FLOW RATE 26.8 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 256.; SONDE TOTAL O3 186.; C.F. 1.377

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	692.2	2800	21.2	.031	55.6	.0000	-52.5			245.1		
1	672.0	2998	25.7	.038	62.7	.0005	-35.9	-45.6	36.5	265.8	9.9	27.
2	653.0	3198	23.1	.035	55.8	.0011	-33.6	-42.9	39.2	270.6	9.9	27.
3	636.0	3383	23.8	.037	57.6	.0016	-33.7	-42.7	40.4	272.5	8.0	28.
4	621.0	3550	23.8	.038	57.7	.0020	-34.4	-43.3	40.7	273.6	7.0	35.
5	605.0	3732	25.1	.041	60.7	.0025	-35.1	-43.5	42.6	274.9	7.1	47.
6	590.0	3906	24.8	.042	60.3	.0030	-36.1	-44.4	43.1	275.6	7.8	57.
7	575.0	4084	22.9	.040	55.8	.0035	-36.4	-45.0	41.4	277.3	8.2	53.
8	558.0	4291	24.2	.043	59.1	.0041	-36.9	-46.5	36.9	279.1	8.4	40.
9	538.0	4543	22.9	.042	56.0	.0048	-37.6	-47.4	35.6	281.2	8.8	39.
10	519.0	4790	21.6	.042	53.2	.0054	-38.7	-49.0	33.5	282.8	5.7	48.
11	508.0	4937	21.5	.042	53.0	.0058	-39.0	-49.9	31.0	284.2	3.5	68.
12	499.0	5059	20.8	.042	51.6	.0060	-40.1			284.3	5.9	76.
13	486.0	5238	19.6	.040	48.6	.0065	-41.7			284.4	6.9	95.
14	473.0	5421	19.1	.040	48.1	.0069	-43.1			284.9	6.6	108.
15	460.0	5608	18.6	.040	47.0	.0073	-44.7			285.3	6.2	105.
16	450.0	5754	18.6	.041	47.2	.0076	-46.1			285.3	5.5	114.
17	439.0	5918	17.2	.039	44.1	.0080	-47.5			285.4	6.0	113.
18	426.0	6116	17.2	.040	44.3	.0084	-48.9			286.2	7.3	100.
19	410.0	6366	16.5	.040	43.0	.0089	-50.7			287.0	7.7	93.
20	396.0	6591	16.5	.042	43.2	.0093	-52.2			287.9	8.2	90.
21	382.0	6822	15.8	.041	41.9	.0098	-54.1			288.4	8.6	88.
22	370.0	7025	13.6	.037	36.1	.0102	-55.9			288.6	7.6	90.
23	359.0	7216	13.6	.038	36.4	.0105	-57.6			288.9	8.0	88.
24	348.0	7411	12.3	.035	33.0	.0108	-59.5			288.9	9.8	91.
25	337.0	7611	12.3	.036	33.2	.0111	-60.8			289.8	9.6	81.
26	326.0	7816	12.3	.038	33.3	.0114	-62.0			290.8	12.4	72.
27	316.0	8007	12.8	.041	35.4	.0118	-63.6			291.3	10.9	85.
28	305.0	8223	11.6	.038	31.9	.0121	-64.9			292.3	9.4	95.
29	295.0	8425	12.3	.042	34.0	.0124	-66.1			293.4	12.0	85.
30	285.0	8633	10.9	.038	30.6	.0127	-68.0			293.6	10.6	73.
31	277.0	8803	11.2	.040	31.7	.0130	-69.1			294.5	8.9	76.
32	268.0	8999	11.2	.042	31.9	.0133	-70.4			295.3	9.2	65.
33	259.0	9200	9.9	.038	28.4	.0135	-72.6			295.1	10.1	60.
34	250.0	9407	9.9	.040	28.5	.0138	-73.3			297.0	10.3	74.
35	241.0	9620	9.9	.041	28.8	.0141	-74.8			297.9	11.8	73.
36	232.0	9840	9.2	.040	26.9	.0144	-75.9			299.5	11.7	77.
37	225.0	10016	10.5	.047	31.0	.0146	-77.8			299.2	11.0	85.
38	218.0	10196	9.1	.042	27.3	.0149	-79.2			299.7	13.4	81.
39	210.0	10407	7.8	.037	23.4	.0151	-80.7			300.5	14.1	76.
40	201.0	10652	12.4	.062	37.9	.0155	-83.0			300.7	10.9	80.
41	194.4	10837	14.5	.074	44.1	.0158	-84.0			302.0	10.4	98.
42	187.2	11045	23.3	.124	71.1	.0164	-84.4			304.7	13.9	106.
43	180.0	11261	29.6	.164	90.7	.0172	-84.4			308.1	16.6	98.
44	173.0	11480	37.9	.219	115.8	.0183	-84.4			311.6	15.2	88.
45	167.0	11675	45.9	.275	140.0	.0194	-84.0			315.4	11.6	79.
46	160.8	11884	46.5	.289	142.5	.0208	-84.7			317.6	10.4	72.
47	154.5	12103	45.2	.292	139.2	.0223	-85.8			319.4	9.6	78.
48	148.6	12315	44.6	.300	138.1	.0236	-87.0			321.0	9.5	99.
49	142.9	12528	51.4	.359	159.2	.0251	-87.0			324.6	11.5	102.

STATION: SOUTH POLE LAUNCH DATE: 19 AUG 86 157 Z ECC SONDE: 4A2494

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	137.0	12757	56.0	.409	173.9	.0269	-87.0			328.5	11.9	96.
51	131.5	12976	65.5	.498	203.2	.0288	-87.0			332.3	9.3	96.
52	126.4	13195	64.3	.509	199.9	.0309	-87.4			335.5	9.1	88.
53	121.2	13423	68.6	.566	212.9	.0331	-87.4			339.5	6.0	90.
54	121.0	13431	78.4	.648	243.7	.0332	-87.4			339.7	10.5	106.
55	112.0	13851	85.4	.762	265.2	.0382	-87.4			347.3	15.6	76.
56	106.3	14134	95.8	.902	298.7	.0419	-87.8			351.7	12.9	57.
57	101.5	14384	104.2	1.027	324.6	.0456	-87.8			356.4	10.9	95.
58	97.2	14619	111.1	1.143	346.2	.0493	-87.8			360.8	10.9	106.
59	93.4	14835	115.5	1.237	359.9	.0528	-87.8			365.0	9.4	97.
60	89.5	15066	115.8	1.294	360.9	.0567	-87.8			369.4	9.2	90.
61	85.6	15307	129.3	1.511	402.8	.0610	-87.8			374.2	6.7	104.
62	81.7	15560	145.7	1.783	454.0	.0661	-87.8			379.2	6.2	128.
63	77.8	15825	164.6	2 115	512.7	.0721	-87.8			384.5	6.4	118.
64	74.8	16038	164.1	2.194	511.1	.0772	-87.8			388.9	6.7	112.
65	72.0	16244	163.7	2.274	511.1	.0821	-88.2			392.3	9.1	105.
66	69.0	16474	169.0	2.449	528.6	.0877	-88.6			396.2	9.9	91.
67	66.1	16706	159.0	2.406	497.5	.0932	-88.6			401.1	9.4	80.
68	63.2	16947	163.3	2.584	513.1	.0989	-89.4			404.4	9.9	73.
69	60.3	17199	173.6	2.880	545.6	.1052	-89.4			409.9	9.8	77.
70	57.8	17426	166.5	2.880	523.3	.1109	-89.4			414.8	9.2	95.
71	55.0	17693	166.2	3.022	522.4	.1174	-89.4			420.8	7.9	120.
72	52.6	17932	155.5	2.956	489.8	.1231	-89.9			425.2	8.6	125.
73	50.3	18171	151.6	3.014	479.7	.1285	-90.8			428.5	8.7	128.
74	48.0	18420	146.5	3.052	465.0	.1340	-91.2			433.2	7.6	132.
75	45.9	18657	138.0	3.006	440.0	.1390	-92.2			436.5	5.1	115.
76	43.6	18929	131.2	3.010	418.5	.1445	-92.2			443.0	1.1	93.
77	41.8	19152	124.9	2.988	398.2	.1487	-92.2			448.4	2.5	98.
78	40.0	19385	113.3	2.833	360.5	.1529	-91.7			455.2	4.4	127.
79	38.1	19644	110.6	2.902	351.1	.1572	-91.2			462.8	7.1	141.
80	36.2	19916	110.2	3.043	349.6	.1616	-91.2			469.6	10.2	130.
81	34.8	20126	106.7	3.067	338.5	.1650	-91.2			474.9	10.7	120.
82	33.0	20409	100.8	3.054	319.7	.1693	-91.2			482.2	11.2	106.
83	31.3	20691	95 3	3.044	301.7	.1734	-90.8			490.8	8.9	108.
84	30.0	20918	92.5	3.084	291.6	.1766	-89.9			499.2	6.4	116.
85	28.5	21194	90.1	3.160	282.4	.1803	-89.0			508.9	9.0	115.
86	27.2	21446	86.5	3.179	269.3	.1835	-87.8			519.2	10.6	115.
87	26.0	21690	84.4	3.247	263.0	.1866	-87.8			525.9	7.5	105.
88	24.9	21924	80.3	3.224	249.4	.1894	-87.4			533.6	3.4	74.
89	23.7	22193	78.1	3.294	241.9	.1924	-87.0			542.3	2.8	71.
90	22 4	22500	74.8	3.338	231.6	.1959	-86.6			552.3	6.2	123.
91	21.2	2280'	73.0	3.442	225.0	.1991	-85.8			563.3	10.9	130.
92	20.0	23120	69.1	3.456	213.0	.2023	-85.8			572.8	12.7	124.
93	19.0	23400	65.0	3.421	201.3	.2050	-86.6			578.9	11.6	129.
94	18.0	23695	63.6	3.534	197.3	.2078	-87.0			586.7	8.5	218.
95	17.0	24006	59.5	3.499	184.1	.2106	-86.6			597.6	8.8	107.
96	16.1	24303	57.7	3.584	177.8	.2131	-85.8			609.4	20.6	88.
97	15.2	24619	56.5	3.714	173.2	.2157	-84.7			623.1	7.2	116.
98	14.3	24957	54.8	3.832	166 6	.2183	-83.3			638.8	10.8	143.
99	13.5	25279	46.8	3.468	140.5	.2207	-80.7			658.3	12.5	154.
100	13.0	25492	50.4	3.877	150.9	.2221	-80.1			667.6	12.5	157.
101	12.5	25669	47.4	3.759	141.1	.2233	-79.2			676.7	12.1	144.
102	12.0	25946	45.0	3.752	134.0	.2251	-79.2			686.2	12.3	153.
103	11.5	26138	39.5	3.407	117.6	.2262	-79.2			692.9	12.0	162.
104	11.0	26440	37.6	3.417	111.0	.2278	-77.8			708.8	12.9	156.

STATION: SOUTH POLE LAUNCH DATE: 19 AUG 86 157 Z ECC SONDE: 4A2494

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	10.5	26707	36.4	3.462	106.6	.2292	-75.9			725.3	17.7	161.
106	10.0	26989	33.9	3.387	98.3	.2305	-74.5			740.4	20.7	149.
107	9.6	27227	31.9	3.328	92.0	.2316	-72.6			756.5	18.7	124.
108	9.2	27497	30.0	3.274	85.5	.2327	-70.4			774.6	13.6	100.
109	8.7	27782	26.9	3.072	76.3	.2338	-70.2			786.2	11.8	86.
110	8.3	28082	26.2	3.148	74.2	.2349	-69.8			799.4	10.1	97.
111	8.0	28278	24.9	3.100	70.8	.2355	-69.8			806.9	10.1	137.
112	7.8	28435	25.1	3.201	71.1	.2360	-70.0			812.2	13.2	156.
113	7.6	28589	25.1	3.285	70.9	.2366	-69.3			820.9	15.1	157.
114	7.4	28755	24.4	3.285	68.7	.2371	-68.4			831.0	15.1	157.

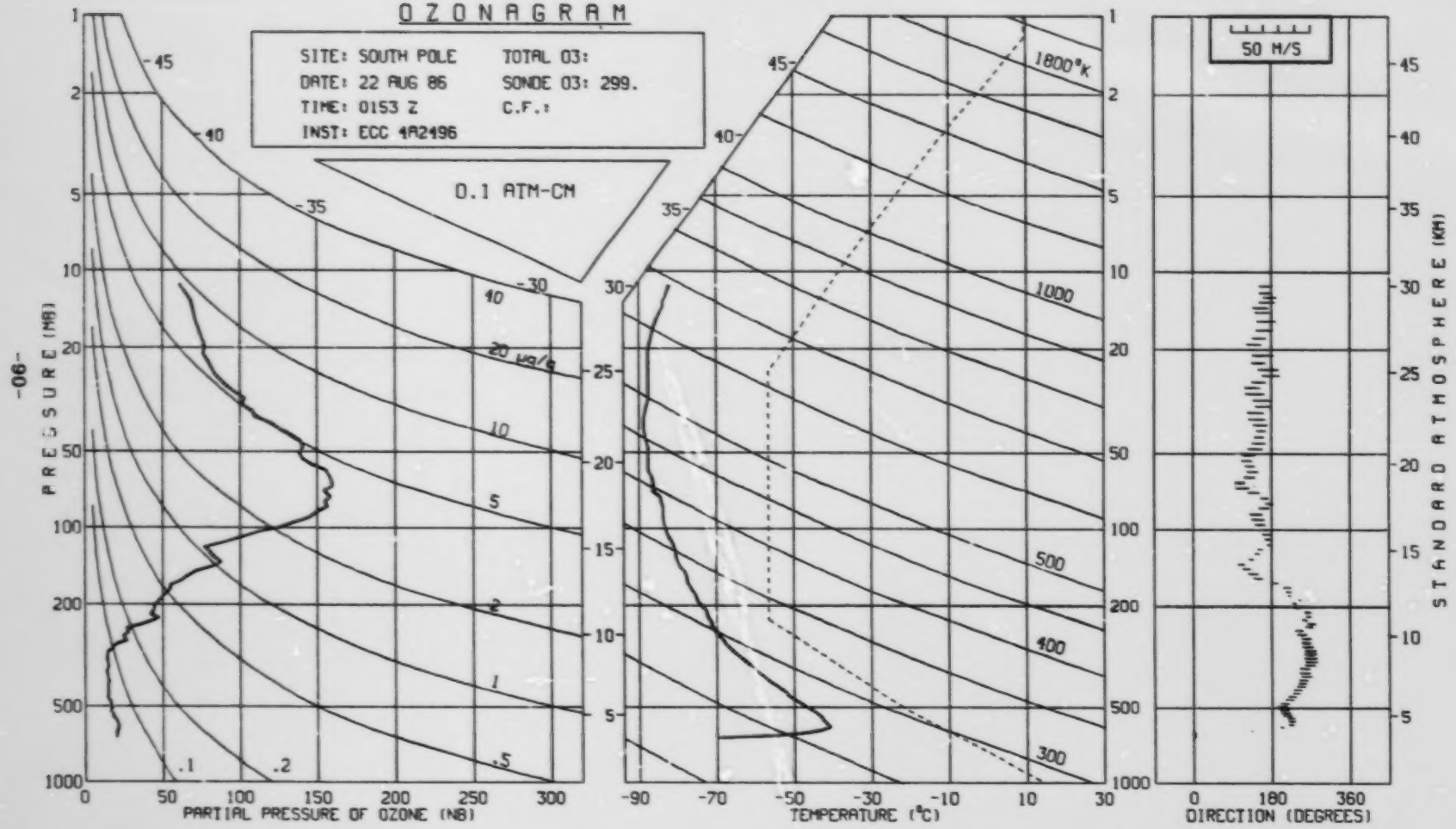
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
23.4	14.3	32.3	126.1	133.6	71.7	39.5	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110119088602   00256   991.377   ECC    TOTAL O3 FROM SONDE DATA  186
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110219088602    692 21-53       500 21-48 75  6 300 12-65 90 11 200 13-83 83 11
1110319088602    150 45-87 94 10 100107-88 99 11  70167-88 96 10  50151-91129  9
1110419088602     30 93-90116  620.0 69-86124 1310.0 34-75149 21 672 26-36 27 10
1110519088602    653 23-34 27 10 167 46-84 79 12 132 66-87 96  9 120 69-87 90  6
1110619088602    121 78-87106 11  90116-88 90  9  78165-88118  6  66159-89 80  9
1110719088602     60174-89 77 10  42125-92 98  3  40113-92127  416.1 58-86 88 21
1110819088602    9.2 30-70100 14 7.4 24-68157 15
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 22 AUG 86 153 Z ECC SONDE: 4A2496
SURFACE CONDITIONS: PRESSURE 672.3 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.9 ORD;
O3 ORD ZERO 31.0, BKGND 31.3, CAL 69.0; O3 BKGND .042 MICROAMP; FLOW RATE 27.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 299.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	672.3	2800	20.2	.030	57.3	.0000	-70.0			227.6		
1	656.0	2951	20.2	.031	53.5	.0004	-54.8			246.3	2.2	1.
2	638.0	3131	20.2	.032	51.6	.0008	-47.4			256.7	2.2	1.
3	620.0	3322	21.0	.034	52.7	.0013	-42.7			264.2	.7	132.
4	601.0	3532	21.5	.036	53.4	.0018	-41.0			268.5	2.0	203.
5	584.0	3726	20.7	.035	51.6	.0023	-41.7			269.9	3.2	224.
6	568.0	3913	19.8	.035	49.5	.0027	-42.7			270.9	4.0	226.
7	551.0	4117	17.9	.032	44.9	.0032	-43.1			272.8	4.5	224.
8	537.0	4290	17.9	.033	45.0	.0036	-43.9			273.8	5.2	215.
9	522.0	4479	16.0	.031	40.5	.0039	-44.9			274.8	5.5	211.
10	508.0	4660	17.4	.034	44.4	.0043	-46.2			275.4	5.3	208.
11	493.0	4858	16.6	.034	42.6	.0047	-47.5			276.1	5.4	204.
12	480.0	5034	16.3	.034	41.9	.0050	-48.9			276.6	4.9	210.
13	465.0	5241	14.4	.031	37.3	.0054	-50.4			277.3	4.7	221.
14	450.0	5454	14.8	.033	38.7	.0058	-51.8			278.1	4.6	227.
15	437.0	5643	14.8	.034	38.8	.0061	-52.2			279.9	4.4	236.
16	425.0	5822	14.8	.035	38.9	.0065	-53.5			280.5	5.0	239.
17	412.0	6021	14.8	.036	39.1	.0068	-54.8			281.4	5.4	247.
18	400.0	6209	15.2	.038	40.4	.0072	-56.3			281.8	4.7	250.
19	389.0	6385	14.6	.038	39.2	.0075	-57.3			282.8	4.9	253.
20	376.0	6599	14.3	.038	38.4	.0079	-58.5			283.9	6.5	260.
21	364.0	6302	13.7	.038	37.1	.0083	-59.7			284.9	6.6	256.
22	351.0	7028	15.1	.043	41.0	.0087	-60.6			286.7	6.1	256.
23	340.0	7225	14.6	.043	40.0	.0090	-62.0			287.3	6.4	268.
24	330.0	7409	14.2	.043	38.9	.0094	-63.0			288.5	7.4	271.
25	320.0	7597	14.1	.044	39.0	.0097	-64.1			289.5	8.1	270.
26	308.0	7830	14.6	.047	40.5	.0102	-65.5			290.7	7.7	269.
27	299.0	8010	17.2	.058	48.1	.0105	-66.3			292.0	7.2	269.
28	288.0	8236	19.4	.067	54.5	.0111	-67.6			293.4	6.6	263.
29	278.0	8448	26.7	.096	75.3	.0117	-68.2			295.4	5.6	259.
30	268.0	8667	24.6	.092	69.5	.0125	-69.1			297.3	5.8	260.
31	259.0	8870	28.1	.108	80.0	.0132	-70.2			298.5	5.8	249.
32	250.0	9079	27.1	.108	77.4	.0139	-70.7			300.9	4.9	243.
33	242.0	9271	34.6	.143	99.0	.0147	-71.4			302.7	4.4	266.
34	235.0	9444	41.9	.178	119.9	.0156	-71.4			305.2	4.4	272.
35	227.0	9648	47.2	.208	135.6	.0168	-72.1			307.2	3.1	256.
36	220.0	9832	42.5	.193	122.2	.0179	-72.6			309.2	2.9	265.
37	211.0	10077	44.5	.211	128.4	.0194	-72.8			312.5	3.8	263.
38	202.0	10332	44.9	.222	130.2	.0209	-73.8			314.9	3.7	240.
39	194.0	10567	47.5	.245	138.2	.0224	-74.8			316.9	2.0	232.
40	187.2	10774	49.6	.265	144.7	.0238	-75.3			319.3	.8	244.
41	180.2	10994	52.1	.289	152.1	.0253	-75.6			322.4	1.6	221.
42	173.6	11209	54.8	.316	160.8	.0269	-76.4			324.5	3.3	219.
43	166.8	11438	54.9	.329	161.7	.0286	-77.2			326.9	4.8	215.
44	160.3	11665	62.0	.387	183.2	.0304	-77.8			329.7	4.7	187.
45	154.0	11894	66.2	.430	195.7	.0324	-77.8			333.5	5.8	149.
46	148.0	12121	71.3	.482	211.3	.0346	-78.3			336.3	6.0	137.
47	141.5	12376	82.4	.582	245.7	.0373	-79.5			338.6	5.0	123.
48	135.6	12617	87.6	.646	262.0	.0402	-80.1			341.6	3.8	111.
49	130.0	12855	82.9	.638	248.6	.0430	-80.7			344.7	2.5	134.

STATION: SOUTH POLE LAUNCH DATE: 22 AUG 86 153 Z ECC SONDE: 4A2496

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	124.3	13107	80.0	.644	240.2	.0459	-80.7			349.1	3.2	147.
51	119.3	13338	77.2	.647	232.0	.0485	-81.1			352.7	3.1	154.
52	114.2	13583	89.3	.782	268.8	.0513	-81.4			356.5	3.0	176.
53	109.0	13844	100.9	.926	305.4	.0548	-82.3			359.5	4.7	173.
54	104.0	14105	111.1	1.068	337.4	.0587	-83.0			363.0	5.1	169.
55	100.0	14323	124.4	1.244	378.4	.0624	-83.3			366.5	4.6	158.
56	95.7	14567	134.4	1.404	409.6	.0669	-83.7			370.4	6.1	154.
57	91.5	14815	144.7	1.581	441.6	.0718	-84.0			374.5	8.1	149.
58	87.3	15075	149.9	1.717	457.6	.0773	-84.0			379.6	8.0	145.
59	83.3	15334	156.5	1.879	477.9	.0830	-84.0			384.7	5.8	162.
60	79.6	15585	154.8	1.945	473.4	.0885	-84.4			389.0	4.4	175.
61	75.9	15847	158.2	2.084	484.8	.0944	-84.7			393.6	4.8	163.
62	72.1	16129	154.6	2.144	478.6	.1007	-86.6			395.5	6.9	139.
63	68.9	16377	159.6	2.316	494.0	.1064	-86.6			400.6	8.6	114.
64	65.4	16661	159.1	2.433	492.5	.1129	-86.6			406.6	6.0	108.
65	62.2	16934	157.4	2.531	488.2	.1192	-87.0			411.7	6.3	130.
66	59.0	17221	155.3	2.632	483.8	.1257	-87.8			416.1	7.3	137.
67	56.8	17504	146.2	2.611	455.4	.1319	-87.8			422.4	6.2	131.
68	53.3	17772	140.5	2.636	437.5	.1375	-87.8			428.4	6.9	124.
69	50.6	18054	138.5	2.737	431.3	.1432	-87.8			434.8	7.7	128.
70	48.0	18340	140.8	2.933	438.5	.1490	-87.8			441.4	9.0	143.
71	45.5	18630	139.3	3.062	434.8	.1550	-88.2			447.2	8.2	151.
72	43.3	18898	133.6	3.085	418.1	.1603	-88.6			452.6	5.9	152.
73	41.0	19192	125.1	3.051	392.3	.1659	-89.0			458.7	6.0	157.
74	38.9	19475	120.4	3.095	377.5	.1710	-89.0			465.6	8.9	155.
75	37.0	19745	109.4	2.957	343.0	.1755	-89.0			472.3	10.5	147.
76	35.0	20045	108.0	3.086	337.8	.1803	-88.6			481.0	10.0	144.
77	33.1	20347	101.4	3.063	316.6	.1849	-88.2			489.8	9.9	162.
78	31.3	20650	102.8	3.284	320.3	.1894	-87.8			498.8	11.8	159.
79	29.8	20916	96.6	3.242	300.9	.1932	-87.8			505.8	12.0	142.
80	28.2	21215	91.3	3.238	284.4	.1973	-87.8			513.9	9.8	137.
81	26.9	21471	87.6	3.257	272.7	.2007	-87.8			520.8	9.3	151.
82	25.3	21803	83.7	3.308	260.8	.2048	-87.8			530.0	10.7	179.
83	24.0	22089	81.6	3.400	254.3	.2082	-87.8			538.1	12.8	173.
84	22.6	22415	79.4	3.513	247.2	.2121	-87.8			547.4	8.8	150.
85	21.1	22787	76.4	3.621	238.1	.2163	-87.8			558.3	13.2	161.
86	20.0	23077	76.8	3.840	239.3	.2195	-87.8			566.9	16.1	157.
87	19.0	23355	76.7	4.037	238.3	.2226	-87.4			576.5	9.5	140.
88	17.9	23679	74.9	4.184	232.2	.2262	-87.0			587.6	8.5	152.
89	16.7	24057	73.4	4.395	227.3	.2303	-86.6			600.6	10.4	164.
90	15.5	24465	71.0	4.581	218.9	.2345	-85.8			616.1	11.9	169.
91	14.3	24908	70.0	4.895	214.6	.2390	-84.7			634.1	9.0	159.
92	13.7	25144	69.2	5.051	211.3	.2413	-84.0			644.3	9.5	155.
93	13.1	25392	68.6	5.237	209.3	.2438	-84.0			652.6	9.6	171.
94	12.5	25652	66.4	5.312	202.0	.2463	-83.3			663.8	8.3	177.
95	12.0	25879	64.2	5.350	194.8	.2484	-83.0			672.8	6.3	165.
96	11.3	26214	61.2	5.416	185.3	.2513	-82.3			686.9	6.3	165.

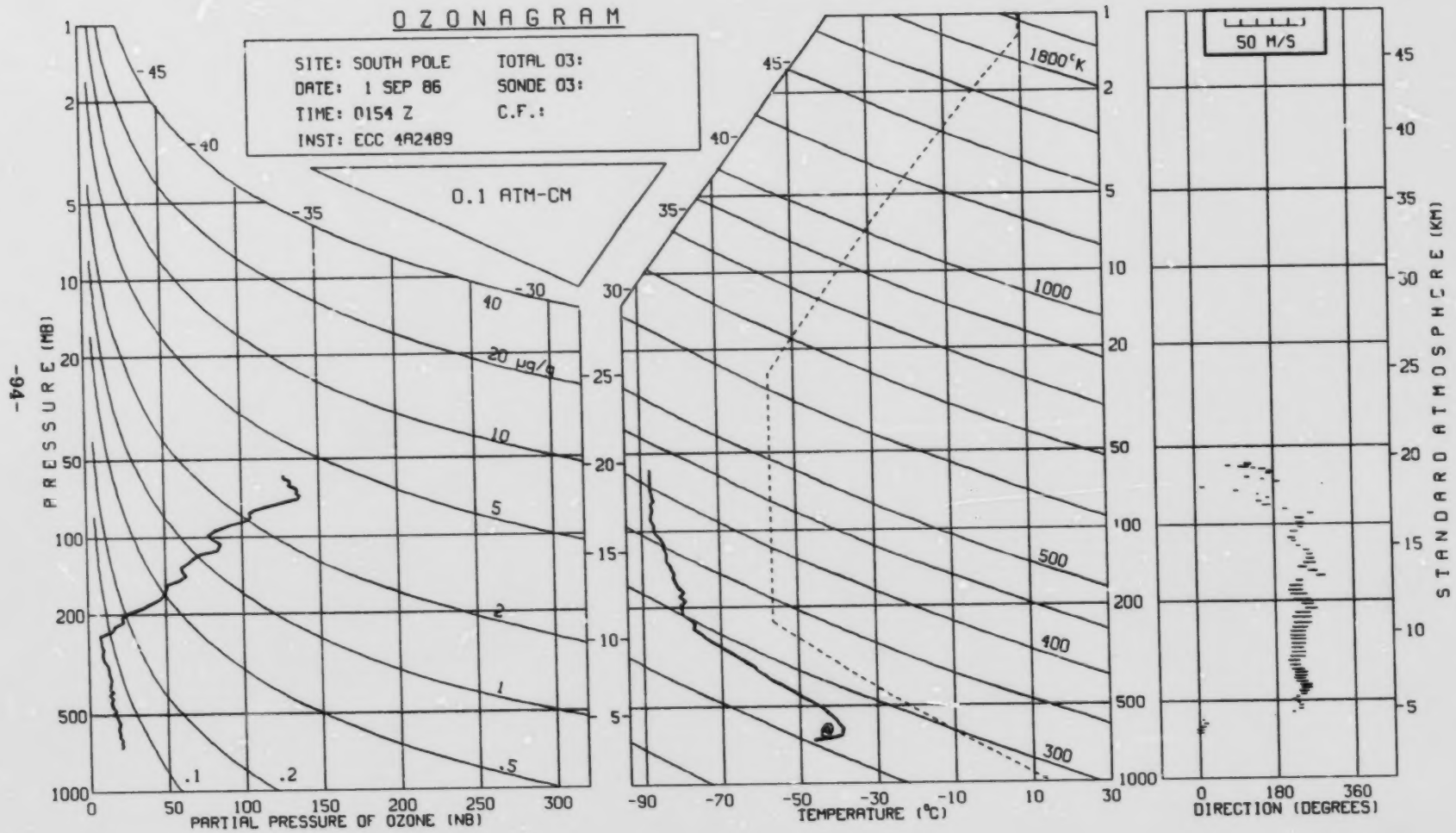
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
19.3	17.2	57.8	133.6	129.6	81.4	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110122088602           99        ECC    TOTAL O3 FROM SONDE DATA  299
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110222088602    672 20-70       500 17-47206  5 300 17-66269  7 200 46-74238  3
1110322088602    150 70-78141  6 100124-83158  5  70158-87123  8  50139-88131  8
1110422088602     30 97-88144 1220.0 77-88157 16 656 20-55   1  2 620 21-43132  1
1110522088602    601 22-41203  2 250 27-71243  5 227 47-72256  3 136 88-80111  4
1110622088602    119 77-81154  3  83157-84162  6  59155-88137  7  46139-88151  8
1110722088602     37109-89147 1111.3 61-82165  6
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 1 SEP 86 154 Z ECC SONDE: 4A2489
SURFACE CONDITIONS: PRESSURE 678.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.0 ORD;
O3 ORD ZERO 33.2, BKGND 33.4, CAL 71.0; O3 BKGND .028 MICROAMP; FLOW RATE 27.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	678.7	2800	19.8	.029	50.6	.0000	-46.8			252.9		
1	663.0	2957	20.8	.031	51.7	.0004	-41.2			260.9	4.0	1.
2	647.0	3123	20.2	.031	49.9	.0008	-39.5	-43.8	64.9	264.6	4.0	1.
3	630.0	3305	20.6	.033	50.8	.0012	-39.4	-43.7	64.9	266.8	3.7	6.
4	612.5	3497	18.8	.031	46.5	.0016	-39.2	-43.1	67.7	269.1	2.6	14.
5	594.0	3706	19.3	.032	47.9	.0021	-40.1			270.5	1.0	8.
6	574.5	3933	18.4	.032	45.6	.0026	-40.7			272.3	.3	174.
7	556.5	4149	18.8	.034	46.9	.0031	-41.7			273.6	1.5	218.
8	540.0	4352	19.2	.036	48.2	.0035	-42.7			274.8	2.7	234.
9	523.0	4567	17.9	.034	44.9	.0040	-43.5			276.4	2.3	234.
10	510.0	4735	17.4	.034	43.9	.0043	-44.5			277.1	1.8	229.
11	497.0	4907	15.5	.031	39.4	.0047	-45.7			277.8	2.4	220.
12	483.0	5096	17.0	.035	43.3	.0050	-46.8			278.7	2.0	227.
13	468.0	5304	15.2	.032	38.9	.0054	-48.3			279.4	3.9	241.
14	454.0	5503	14.2	.031	36.8	.0058	-49.9			279.7	6.1	242.
15	440.0	5707	13.7	.031	35.5	.0061	-51.0			280.9	6.4	248.
16	428.0	5886	15.0	.035	39.3	.0064	-52.2			281.6	7.4	247.
17	415.0	6084	12.7	.031	33.5	.0068	-53.8			282.0	7.5	237.
18	403.0	6271	15.0	.037	39.8	.0071	-55.1			282.7	7.6	233.
19	392.0	6447	13.2	.034	35.1	.0074	-56.8			282.8	7.8	236.
20	380.0	6643	13.6	.036	36.6	.0077	-58.1			283.5	8.1	236.
21	369.0	6827	13.7	.037	36.9	.0081	-59.0			284.8	7.8	229.
22	356.0	7051	14.1	.040	38.5	.0084	-60.8			285.3	6.9	222.
23	342.0	7300	12.8	.037	34.8	.0089	-61.7			287.4	7.5	220.
24	330.0	7520	12.7	.038	35.0	.0092	-63.6			287.7	9.3	228.
25	317.0	7765	12.2	.038	34.0	.0096	-65.3			288.6	9.0	231.
26	304.0	8018	9.9	.033	27.7	.0100	-67.2			285.5	7.9	229.
27	293.0	8239	9.0	.031	25.4	.0103	-69.1			289.8	9.0	231.
28	282.0	8466	8.9	.032	25.5	.0105	-70.9			290.4	9.7	231.
29	273.0	8657	9.5	.035	27.2	.0108	-72.6			290.7	9.5	230.
30	263.0	8875	8.1	.031	23.5	.0110	-74.3			291.3	9.7	231.
31	253.0	9100	8.1	.032	23.6	.0113	-75.3			293.0	9.8	236.
32	243.0	9332	7.2	.030	21.1	.0115	-77.2			293.6	11.3	242.
33	232.0	9598	15.3	.066	45.0	.0119	-76.9			297.9	12.4	240.
34	223.0	9324	17.0	.076	50.3	.0124	-78.1			299.5	9.7	243.
35	214.0	10058	22.6	.106	67.5	.0131	-79.8			300.4	7.5	262.
36	206.0	10273	21.7	.105	65.0	.0137	-80.1			303.2	7.5	254.
37	198.2	10491	26.1	.132	78.1	.0145	-80.4			306.0	10.1	241.
38	188.8	10766	36.3	.192	108.1	.0157	-79.2			312.3	10.9	234.
39	182.2	10967	41.2	.226	123.7	.0168	-80.7			313.0	9.5	227.
40	174.8	11201	46.8	.268	139.7	.0182	-79.5			318.7	7.9	228.
41	167.5	11441	49.2	.294	147.8	.0198	-81.1			320.1	4.3	236.
42	160.3	11687	50.8	.317	153.1	.0215	-81.7			323.0	5.6	286.
43	153.5	11929	51.6	.336	156.0	.0233	-82.3			326.0	5.5	267.
44	147.9	12136	59.1	.400	178.5	.0249	-82.0			330.0	5.6	243.
45	142.2	12355	63.6	.447	192.8	.0268	-82.7			332.6	7.2	260.
46	136.8	12570	61.4	.449	186.5	.0287	-83.0			335.7	4.8	261.
47	131.5	12789	60.3	.459	184.0	.0306	-84.0			337.7	4.2	260.
48	126.3	13012	64.9	.514	198.1	.0326	-84.0			341.6	4.1	253.
49	121.2	13240	68.3	.564	208.5	.0348	-84.0			345.6	2.2	235.

STATION: SOUTH POLE LAUNCH DATE: 1 SEP 86 154 Z ECC SONDE: 4A2489

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	116.2	13472	73.2	.630	224.4	.0371	-84.7			348.5	2.4	224.
51	113.0	13626	83.9	.742	256.7	.0389	-84.4			352.0	4.5	219.
52	106.7	13942	86.1	.807	264.8	.0427	-85.5			355.7	4.6	225.
53	102.9	14140	81.4	.791	252.0	.0451	-86.6			357.3	3.2	240.
54	99.0	14350	78.4	.792	243.2	.0476	-87.0			360.5	4.6	240.
55	94.9	14580	82.8	.872	256.8	.0502	-87.0			364.9	5.5	238.
56	91.0	14808	90.9	.999	283.1	.0531	-87.8			367.7	3.7	264.
57	87.4	15027	102.0	1.167	317.5	.0562	-87.8			371.9	3.0	206.
58	84.3	15223	105.7	1.254	328.6	.0592	-87.4			376.6	5.2	163.
59	81.5	15406	104.8	1.286	325.8	.0620	-87.4			380.3	3.0	146.
60	79.0	15575	108.6	1.375	338.2	.0646	-87.8			382.8	1.8	166.
61	76.6	15742	117.1	1.529	363.1	.0673	-87.0			387.9	1.0	143.
62	74.3	15908	126.4	1.701	392.7	.0703	-87.4			390.5	2.0	94.
63	72.1	16071	136.3	1.890	423.5	.0734	-87.4			393.8	3.0	16.
64	70.1	16223	137.5	1.961	428.2	.0764	-87.8			396.1	.9	292.
65	68.5	16348	135.2	1.974	421.1	.0789	-87.8			398.8	3.8	188.
66	67.0	16468	135.8	2.027	422.8	.0813	-87.8			401.3	2.1	156.
67	65.8	16566	135.4	2.058	421.6	.0832	-87.8			403.4	2.7	120.
68	64.0	16716	130.5	2.039	406.6	.0861	-87.8			406.6	2.9	169.
69	62.8	16818	131.2	2.089	408.6	.0881	-87.8			408.8	4.0	174.
70	61.7	16913	131.0	2.123	408.1	.0899	-87.8			410.9	4.1	155.
71	61.2	16957	130.4	2.131	406.1	.0907	-87.8			411.8	2.7	135.
72	60.7	17001	127.8	2.105	398.0	.0916	-87.8			412.8	4.5	116.
73	60.2	17045	127.5	2.118	396.9	.0924	-87.8			413.8	6.3	111.
74	59.8	17081	127.1	2.125	395.9	.0931	-87.8			414.5	2.9	76.
75	59.2	17135	126.9	2.144	395.4	.0941	-87.8			415.7	3.9	122.
76	58.9	17162	127.2	2.160	396.2	.0946	-87.8			416.3	3.9	122.

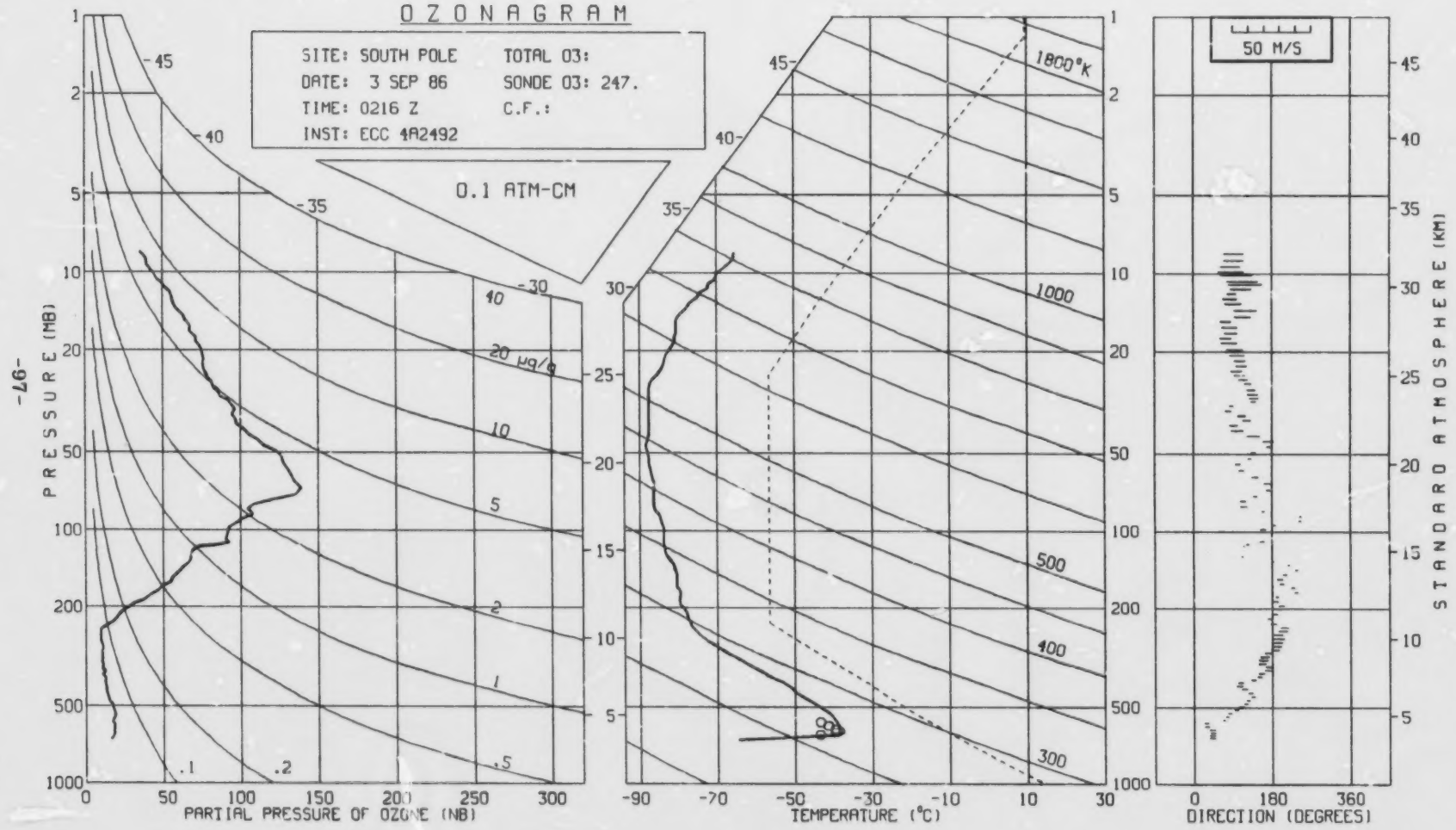
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
19.0	12.4	39.9	101.3	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110101098602           99        ECC    TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110201098602    679 20-47       500 16-45222  2 300 10-68230  8 200 25-80244  9
1110301098602    150 56-82252  6 100 79-87240  4  70137-88286  1 663 21-41  1  4
1110401098602    613 19-39 14  3 243  7-77242 11 175 47-80228  8 132 60-84260  4
1110501098602    116 73-85224  2 113 84-84219  5  87102-88206  3  79109-80166  2
1110601098602     59127-88122  4
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 3 SEP 86 216 Z ECC SONDE: 4A2492
SURFACE CONDITIONS: PRESSURE 671.8 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.6 ORD;
O3 ORD ZERO 33.0, BKGND 33.1, CAL 70.0; O3 BKGND .014 MICROAMP; FLOW RATE 27.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 : SONDE TOTAL O3 247.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	671.8	2800	16.2	.024	44.8	.0000	-64.9			233.3		
1	657.0	2940	17.5	.027	45.7	.0003	-51.6			249.8	3.7	42.
2	642.0	3094	18.4	.029	45.5	.0006	-39.1	-43.8	61.9	265.7	3.7	42.
3	627.5	3251	18.0	.029	44.1	.0010	-37.7	-39.8	82.8	268.9	3.4	43.
4	610.0	3445	18.4	.030	45.2	.0014	-37.9	-39.9	82.8	271.0	3.4	41.
5	591.5	3656	18.4	.031	45.4	.0018	-39.0	-41.7	77.1	272.1	3.2	29.
6	572.0	3885	17.0	.030	42.1	.0023	-39.5	-43.7	65.4	274.1	2.0	28.
7	557.0	4066	17.9	.032	44.4	.0026	-40.1			275.5	1.4	68.
8	542.0	4252	18.8	.035	46.6	.0030	-40.6			277.0	1.8	76.
9	526.0	4455	18.3	.035	45.7	.0035	-41.6			278.3	2.1	82.
10	510.0	4663	17.4	.034	43.7	.0039	-43.0			279.0	2.5	97.
11	494.0	4877	16.9	.034	42.7	.0043	-44.4			279.9	2.4	109.
12	481.0	5055	15.1	.031	38.4	.0047	-45.7			280.4	2.3	119.
13	468.0	5236	14.7	.031	37.5	.0050	-47.1			280.8	2.0	125.
14	453.0	5450	13.7	.030	35.3	.0054	-48.6			281.6	2.2	136.
15	440.0	5640	13.2	.030	34.2	.0057	-50.1			282.1	3.0	129.
16	425.0	5866	13.2	.031	34.4	.0060	-51.1			283.5	3.9	116.
17	413.0	6051	12.7	.031	33.2	.0063	-52.2			284.4	3.9	105.
18	401.0	6241	12.2	.030	32.1	.0066	-53.5			285.2	3.2	107.
19	390.0	6419	12.7	.033	33.6	.0069	-55.3			285.2	2.8	137.
20	378.0	6617	10.8	.029	29.0	.0072	-57.1			285.3	3.1	150.
21	366.0	6820	12.2	.033	32.9	.0075	-58.5			286.1	3.8	156.
22	354.0	7028	10.3	.029	27.9	.0078	-60.2			286.5	4.2	170.
23	343.0	7224	11.2	.033	30.6	.0080	-61.7			287.1	4.2	172.
24	333.0	7406	10.3	.031	28.2	.0083	-63.0			287.8	4.3	157.
25	321.0	7630	10.7	.033	29.6	.0086	-64.7			288.4	5.6	159.
26	310.0	7842	10.7	.035	29.8	.0089	-66.3			289.0	5.8	163.
27	300.0	8039	10.2	.034	28.6	.0092	-68.0			289.4	4.9	171.
28	290.0	8241	11.0	.038	31.3	.0094	-69.5			290.0	5.2	187.
29	281.0	8428	10.6	.038	30.2	.0097	-70.9			290.7	5.7	190.
30	271.0	8641	9.6	.035	27.8	.0100	-72.6			291.3	6.5	191.
31	261.5	8850	9.6	.037	27.9	.0103	-73.8			292.5	7.4	194.
32	252.0	9065	9.6	.038	28.0	.0105	-75.1			293.7	6.6	192.
33	245.0	9228	9.6	.039	28.0	.0108	-75.9			294.9	5.7	204.
34	236.5	9431	13.6	.058	40.1	.0111	-76.9			296.3	5.4	208.
35	228.0	9641	18.1	.079	53.2	.0115	-77.2			298.9	3.7	184.
36	219.0	9871	20.3	.093	59.9	.0122	-77.8			301.5	3.2	175.
37	210.0	10110	22.9	.109	67.8	.0129	-78.1			304.7	3.5	186.
38	201.9	10359	27.6	.137	82.2	.0137	-78.9			307.2	3.4	196.
39	194.3	10551	30.9	.159	92.4	.0145	-79.8			308.8	4.0	202.
40	186.9	10770	38.2	.204	114.2	.0156	-80.1			311.7	3.1	189.
41	179.6	10995	41.8	.233	124.9	.0168	-79.8			315.8	1.7	191.
42	172.7	11216	46.9	.272	140.0	.0182	-79.8			319.3	2.1	235.
43	166.5	11422	49.5	.297	148.6	.0196	-80.7			321.1	2.3	228.
44	160.2	11639	54.8	.342	164.6	.0212	-80.7			324.7	2.8	202.
45	154.0	11861	56.0	.364	168.1	.0229	-80.7			328.4	3.6	198.
46	148.2	12077	59.6	.402	178.8	.0247	-80.7			332.0	2.4	209.
47	142.3	12305	62.1	.436	186.7	.0266	-81.1			335.3	1.5	236.
48	136.4	12543	66.1	.485	199.0	.0288	-81.4			338.9	1.2	218.
49	131.3	12756	67.8	.516	205.3	.0308	-82.3			340.8	.6	184.

STATION: SOUTH POLE LAUNCH DATE: 3 SEP 86 216 Z ECC SONDE: 4A2492

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	126.0	12985	68.2	.541	207.4	.0330	-83.3			343.1	.4	112.
51	120.9	13214	69.2	.572	210.9	.0352	-83.7			346.5	.4	31.
52	116.6	13414	73.4	.630	223.5	.0373	-83.7			350.1	.2	211.
53	114.7	13505	85.0	.741	259.3	.0383	-84.0			351.1	.6	115.
54	112.8	13597	92.2	.817	281.5	.0395	-84.0			352.8	1.3	124.
55	109.5	13761	90.2	.824	275.3	.0416	-84.0			355.8	3.5	157.
56	97.8	14386	92.7	.948	283.1	.0497	-84.0			367.5	3.5	160.
57	94.0	14605	96.9	1.031	296.3	.0527	-84.4			371.0	1.6	185.
58	90.3	14826	101.0	1.118	309.6	.0558	-84.7			374.5	1.6	244.
59	86.8	15043	107.8	1.242	330.9	.0591	-85.1			378.1	1.4	246.
60	83.2	15275	104.7	1.258	323.5	.0626	-86.2			380.4	1.7	160.
61	79.6	15516	108.3	1.361	335.2	.0664	-86.6			384.4	4.0	115.
62	76.1	15761	121.1	1.591	374.8	.0704	-86.6			389.4	3.8	113.
63	72.8	16003	135.4	1.860	418.9	.0749	-86.6			394.4	2.6	142.
64	68.9	16303	138.6	2.012	428.9	.0809	-86.6			400.6	3.6	174.
65	65.0	16621	134.5	2.069	416.3	.0872	-86.6			407.4	4.2	169.
66	61.5	16923	132.9	2.161	412.2	.0930	-87.0			413.0	4.1	141.
67	58.0	17242	130.2	2.245	404.7	.0991	-87.4			419.1	3.4	109.
68	54.7	17560	127.4	2.329	396.8	.1050	-87.8			425.2	3.0	101.
69	52.0	17834	126.4	2.431	393.6	.1101	-87.8			431.4	2.5	128.
70	49.5	18101	122.6	2.477	382.7	.1149	-88.2			436.6	2.3	138.
71	47.1	18369	114.4	2.429	357.9	.1196	-88.6			441.9	3.2	174.
72	44.9	18627	110.6	2.463	345.2	.1238	-88.2			448.9	6.5	171.
73	42.8	18886	105.2	2.458	327.8	.1279	-87.8			456.1	8.3	137.
74	40.8	19145	102.0	2.500	317.6	.1318	-87.8			462.4	8.8	100.
75	38.9	19403	97.3	2.501	303.2	.1356	-87.8			468.7	5.0	92.
76	37.0	19674	96.7	2.614	301.1	.1394	-87.8			475.5	5.0	122.
77	35.3	19929	94.6	2.680	294.5	.1430	-87.8			481.9	4.9	110.
78	33.8	20164	96.2	2.846	299.6	.1462	-87.8			487.9	3.5	79.
79	32.3	20410	94.0	2.910	292.8	.1496	-87.8			494.3	2.0	87.
80	31.0	20633	91.9	2.965	286.1	.1526	-87.8			500.1	3.4	137.
81	30.0	20811	87.3	2.910	272.0	.1550	-87.8			504.9	6.0	139.
82	28.9	21013	86.1	2.979	268.2	.1575	-87.8			510.3	6.8	135.
83	27.8	21223	82.6	2.971	257.3	.1601	-87.8			516.0	5.6	132.
84	26.4	21503	81.6	3.091	253.5	.1634	-87.4			524.8	4.1	125.
85	25.5	21692	79.4	3.114	245.6	.1656	-86.6			532.2	5.8	114.
86	24.5	21911	78.0	3.184	239.9	.1681	-85.5			541.6	6.8	105.
87	23.6	22117	76.4	3.237	234.0	.1704	-84.7			549.5	7.3	99.
88	22.6	22356	75.9	3.358	231.8	.1730	-84.0			558.5	6.7	110.
89	21.6	22606	76.4	3.537	232.8	.1757	-83.7			566.8	6.9	106.
90	20.6	22869	75.6	3.670	229.9	.1786	-83.3			575.5	9.3	100.
91	19.6	23146	74.7	3.811	225.9	.1815	-82.3			586.9	10.0	95.
92	18.5	23469	71.5	3.865	214.9	.1849	-81.1			600.7	9.9	82.
93	17.8	23686	71.5	4.017	215.0	.1870	-81.1			607.3	7.5	74.
94	17.0	23944	67.6	3.976	202.8	.1896	-80.7			616.4	7.9	85.
95	16.2	24215	67.7	4.179	203.1	.1921	-80.7			624.9	9.8	83.
96	15.4	24500	64.6	4.195	193.9	.1948	-80.7			634.0	6.8	74.
97	14.8	24724	63.3	4.277	189.4	.1968	-80.1			643.3	10.5	113.
98	14.0	25039	59.1	4.221	175.2	.1995	-78.3			659.6	14.8	113.
99	13.2	25375	56.7	4.295	167.0	.2022	-77.2			674.7	10.0	91.
100	12.6	25643	55.9	4.437	163.1	.2042	-75.3			690.3	9.3	84.
101	12.0	25926	55.1	4.592	160.3	.2064	-74.5			702.8	5.7	88.
102	11.5	26174	51.7	4.496	148.7	.2082	-72.6			718.5	13.3	109.
103	11.0	26435	49.9	4.536	143.5	.2099	-72.3			728.6	21.4	119.
104	10.7	26598	46.7	4.364	133.3	.2110	-70.9			739.5	19.4	112.

STATION: SOUTH POLE LAUNCH DATE: 3 SEP 86 216 Z ECC SONDE: 4A2492

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	10.1	26940	44.6	4.416	126.8	.2131	-70.2			754.3	20.2	99.
106	9.8	27119	42.6	4.347	120.8	.2141	-69.3			764.2	16.1	86.
107	9.3	27432	39.8	4.280	111.8	.2158	-67.6			782.3	12.5	85.
108	8.9	27731	39.6	4.475	110.5	.2174	-65.9			799.9	12.6	93.
109	8.4	28084	35.6	4.263	99.2	.2191	-65.7			814.1	12.6	93.

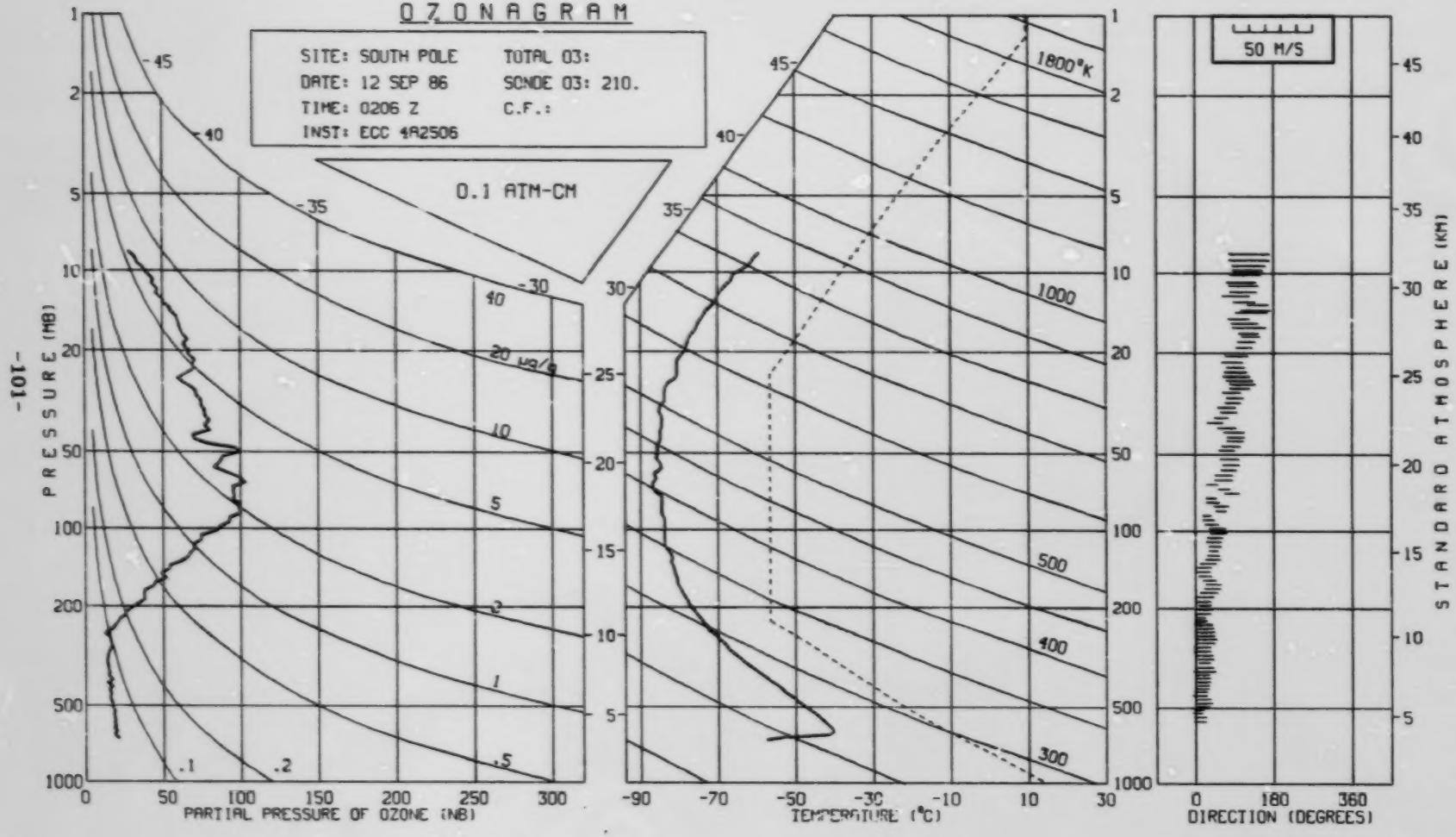
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.9	11.8	41.7	105.8	111.1	76.7	51.2	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110103098602          99        ECC    TOTAL O3 FROM SONDE DATA  247
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110203098602    672 16-65        500 17-44104  2 300 10-68171  5 200 28-79197  3
1110303098602    150 58-81206  3 100 92-84159  4  70138-87165  3  50123-88136  2
1110403098602     30 87-88139  620.0 75-83 97 1010.0 44-70 95 19 642 18-39 42  4
1110503098602    610 18-38 41  3 237 14-77208  5 121 69-84 31  0 117 73-84211  0
1110603098602    113 92-84124  1  80108-87115  4  73135-87142  3  39 97-88 92  5
1110703098602   14.8 63-80113 11 8.4 36-66 93 13
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 12 SEP 86 206 Z ECC SONDE: 4A2506
SURFACE CONDITIONS: PRESSURE 677.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.1 ORD;
O3 ORD ZERO 32.4, BKGND 32.8, CAL 69.4; O3 BKGND .057 MICROAMP; FLOW RATE 29.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 210.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	677.1	2800	21.2	.031	56.8	.0000	-57.6			241.0		
1	661.0	2953	19.6	.030	51.7	.0004	-53.8			246.9		
2	645.0	3114	18.6	.029	46.3	.0008	-41.7			262.3		
3	630.0	3273	20.0	.032	49.7	.0011	-40.6			265.4		
4	614.0	3448	18.5	.030	45.9	.0015	-40.6			267.3		
5	599.0	3616	19.4	.032	48.3	.0019	-41.4			268.3		
6	583.0	3799	18.6	.032	46.4	.0023	-42.1			269.5		
7	563.0	4034	19.0	.034	47.7	.0028	-43.1			271.1	7.8	10.
8	541.0	4301	18.0	.033	45.5	.0034	-44.5			272.5	7.8	10.
9	523.0	4526	18.6	.036	47.2	.0039	-45.9			273.4	6.3	4.
10	509.0	4706	17.0	.033	43.5	.0043	-47.1			274.2	6.5	7.
11	492.0	4930	17.5	.036	44.9	.0047	-48.4			275.2	7.9	16.
12	478.0	5119	16.2	.034	41.8	.0051	-49.5			276.2	9.3	21.
13	461.0	5355	15.7	.034	40.8	.0056	-50.7			277.6	10.2	16.
14	447.0	5555	16.2	.036	42.3	.0059	-52.1			278.3	9.5	9.
15	431.0	5790	15.2	.035	39.8	.0064	-53.5			279.4	8.8	11.
16	420.0	5956	17.5	.042	46.1	.0067	-54.3			280.4	8.0	16.
17	408.0	6141	14.1	.035	37.3	.0071	-55.3			281.5	7.1	17.
18	396.0	6330	17.5	.044	46.7	.0075	-56.8			282.0	8.1	18.
19	382.0	6557	14.5	.038	38.9	.0079	-58.1			283.1	8.9	17.
20	370.0	6757	15.2	.041	41.0	.0083	-59.3			284.1	8.8	16.
21	359.0	6945	14.6	.041	39.8	.0086	-60.6			284.9	14.3	20.
22	347.0	7155	14.2	.041	38.7	.0090	-62.0			285.7	11.4	20.
23	333.0	7408	13.7	.041	37.6	.0095	-63.7			286.7	7.1	19.
24	322.0	7613	14.1	.044	39.2	.0099	-64.7			288.1	10.8	21.
25	312.0	7805	14.6	.047	40.8	.0102	-65.9			289.1	11.1	19.
26	301.0	8022	16.1	.053	45.2	.0106	-67.4			290.0	11.0	15.
27	290.0	8246	17.0	.059	48.0	.0111	-68.0			292.2	10.7	15.
28	280.0	8456	16.1	.058	45.4	.0116	-69.1			293.6	12.0	22.
29	270.0	8672	15.7	.058	44.8	.0120	-70.2			295.0	12.3	25.
30	262.0	8850	12.3	.047	35.2	.0124	-70.9			296.6	12.0	22.
31	252.0	9079	16.2	.064	46.5	.0128	-72.6			297.4	12.5	21.
32	243.0	9292	18.6	.077	53.5	.0133	-72.8			300.2	11.0	21.
33	234.0	9512	20.4	.087	59.0	.0139	-73.8			301.9	11.6	16.
34	225.0	9740	22.2	.099	64.6	.0146	-74.5			304.2	7.9	12.
35	219.0	9897	25.0	.114	72.7	.0151	-75.1			305.7	5.3	12.
36	210.0	10140	26.3	.125	76.9	.0159	-75.9			308.2	9.4	17.
37	202.0	10363	29.9	.148	88.1	.0168	-76.9			309.9	9.1	21.
38	194.0	10594	34.5	.178	102.0	.0178	-77.8			312.2	8.4	20.
39	186.7	10813	38.2	.205	113.2	.0189	-78.1			315.1	9.3	18.
40	179.2	11046	37.8	.211	112.3	.0201	-78.9			317.4	10.8	21.
41	173.0	11246	38.2	.221	114.0	.0212	-79.5			319.7	11.1	30.
42	166.8	11452	43.7	.262	130.7	.0224	-80.1			322.0	10.5	38.
43	160.5	11669	45.2	.282	135.6	.0237	-80.7			324.5	9.8	40.
44	154.8	11872	52.4	.339	157.4	.0251	-80.7			327.9	8.3	32.
45	149.0	12087	48.9	.328	147.1	.0266	-81.1			331.0	8.7	21.
46	143.3	12306	54.0	.377	162.5	.0282	-81.4			334.1	8.7	17.
47	138.0	12517	54.7	.396	164.9	.0298	-81.7			337.2	9.6	19.
48	133.2	12715	61.9	.465	187.2	.0315	-82.3			339.4	10.4	29.
49	128.3	12924	66.1	.515	199.6	.0333	-82.0			343.7	9.7	40.

STATION: SOUTH POLE LAUNCH DATE: 12 SEP 86 206 Z ECC SONDE: 4A2506

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	123.5	13137	67.7	.548	204.8	.0354	-82.3			346.9	7.3	41.
51	119.0	13343	70.5	.592	214.6	.0374	-83.3			348.7	5.7	41.
52	114.6	13552	70.1	.612	214.0	.0395	-84.0			351.2	7.9	44.
53	110.2	13768	74.7	.678	227.9	.0417	-84.0			355.1	9.5	42.
54	106.0	13983	74.8	.706	228.5	.0440	-84.0			359.1	9.5	45.
55	102.0	14196	84.4	.827	257.6	.0464	-84.0			363.1	10.1	53.
56	98.0	14417	87.7	.895	267.7	.0491	-84.0			367.3	10.1	50.
57	94.3	14630	92.9	.985	283.7	.0519	-84.0			371.3	8.7	37.
58	90.7	14845	93.1	1.026	284.3	.0547	-84.0			375.5	7.5	30.
59	87.0	15075	100.6	1.156	308.4	.0579	-84.7			378.5	5.1	26.
60	83.6	15294	99.0	1.184	303.4	.0611	-84.7			382.9	6.5	58.
61	80.2	15523	99.4	1.239	304.7	.0643	-84.7			387.4	10.0	59.
62	77.2	15733	95.4	1.236	292.4	.0672	-84.7			391.7	8.3	40.
63	74.2	15951	95.9	1.292	293.9	.0702	-84.7			396.1	6.2	36.
64	71.2	16177	95.6	1.343	295.3	.0733	-86.2			397.7	9.6	84.
65	68.3	16404	95.4	1.397	295.9	.0765	-87.0			400.8	7.2	66.
66	65.5	16632	102.9	1.571	319.3	.0798	-87.0			405.6	7.2	38.
67	62.7	16870	99.6	1.589	307.6	.0832	-86.2			412.4	11.6	66.
68	60.0	17110	91.6	1.527	283.4	.0866	-86.6			416.8	11.4	66.
69	57.4	17353	83.2	1.449	254.9	.0896	-84.7			426.3	9.6	77.
70	54.9	17598	86.7	1.579	266.1	.0926	-85.1			430.9	10.6	82.
71	52.1	17885	88.6	1.701	273.6	.0962	-86.2			434.8	12.4	79.
72	50.1	18099	99.5	1.986	306.7	.0991	-85.8			440.6	10.5	71.
73	48.3	18299	96.6	2.000	297.7	.1020	-85.8			445.2	10.0	72.
74	46.5	18507	78.4	1.686	241.5	.1046	-85.8			450.1	11.5	83.
75	44.5	18748	70.0	1.573	215.0	.1072	-85.1			457.6	10.1	92.
76	43.0	18936	69.5	1.616	213.5	.1090	-85.1			462.1	11.0	93.
77	41.2	19171	80.3	1.949	246.4	.1116	-85.1			467.8	13.3	89.
78	39.6	19389	76.8	1.939	235.2	.1140	-84.7			474.0	11.6	72.
79	37.9	19631	80.1	2.113	245.3	.1167	-84.7			480.0	10.3	45.
80	36.2	19884	77.0	2.127	235.9	.1196	-84.7			486.3	8.3	60.
81	34.5	20148	77.0	2.232	237.0	.1225	-85.5			491.1	10.3	77.
82	33.1	20375	74.6	2.254	229.1	.1250	-85.1			497.9	11.0	72.
83	31.8	20596	74.8	2.352	228.5	.1274	-84.0			506.5	10.0	87.
84	30.4	20845	71.7	2.359	218.9	.1300	-84.0			513.1	10.7	92.
85	29.0	21106	71.5	2.466	218.4	.1326	-84.0			520.1	11.1	83.
86	27.8	21340	67.3	2.421	205.0	.1349	-83.7			527.4	12.8	103.
87	26.8	21543	63.0	2.351	191.4	.1368	-83.0			534.8	16.6	109.
88	25.8	21755	59.9	2.322	180.2	.1387	-81.4			545.3	17.1	102.
89	24.8	21977	63.8	2.573	191.3	.1406	-80.7			553.3	17.0	95.
90	23.8	22208	69.5	2.920	208.7	.1428	-80.7			559.9	14.3	93.
91	22.8	22449	69.5	3.048	208.6	.1451	-80.7			566.8	11.9	93.
92	21.7	22727	70.6	3.253	211.7	.1478	-80.7			574.8	13.5	85.
93	20.5	23048	66.1	3.224	197.2	.1509	-79.5			588.0	14.5	94.
94	19.9	23216	67.0	3.367	199.2	.1525	-78.9			594.8	12.4	110.
95	19.0	23479	63.5	3.342	188.1	.1549	-78.3			604.5	10.3	113.
96	18.1	23756	66.0	3.646	195.0	.1573	-77.8			614.8	11.0	118.
97	17.2	24048	62.9	3.657	185.2	.1599	-77.2			625.6	11.7	128.
98	16.8	24183	62.2	3.702	182.5	.1611	-76.4			632.4	12.5	122.
99	16.0	24464	60.7	3.794	177.5	.1635	-75.6			643.9	21.6	124.
100	15.4	24685	60.0	3.896	174.8	.1653	-75.1			652.7	17.1	113.
101	14.8	24916	59.0	3.986	171.2	.1671	-74.3			662.8	13.1	100.
102	14.0	25240	54.7	3.907	158.0	.1696	-73.3			676.8	20.2	130.
103	13.7	25367	54.9	4.007	157.9	.1706	-72.6			683.5	18.5	139.
104	13.1	25630	50.6	3.863	144.7	.1724	-71.4			696.4	13.7	144.

STATION: SOUTH POLE LAUNCH DATE: 12 SEP 86 206 Z ECC SONDE: 4A2506

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.8	25767	50.6	3.953	144.3	.1734	-70.7			703.4	13.7	112.
106	12.1	26101	45.6	3.769	129.7	.1755	-70.0			717.2	17.5	93.
107	11.7	26301	46.9	4.009	132.8	.1767	-69.3			726.5	16.9	111.
108	11.1	26616	43.2	3.892	121.6	.1786	-68.0			742.2	18.8	112.
109	10.8	26781	44.1	4.083	123.3	.1795	-66.8			752.7	18.4	106.
110	10.1	27186	39.6	3.921	110.5	.1817	-65.9			770.3	19.4	115.
111	9.9	27289	38.8	3.907	107.5	.1823	-64.7			778.5	19.2	121.
112	9.7	27438	37.6	3.880	103.6	.1830	-63.6			788.4	18.9	120.
113	9.3	27684	34.0	3.652	92.9	.1841	-62.0			803.2	21.2	123.
114	8.9	27963	32.8	3.685	89.4	.1853	-61.1			817.2	26.0	124.
115	8.4	28338	28.6	3.413	77.4	.1868	-59.5			837.7	26.0	124.

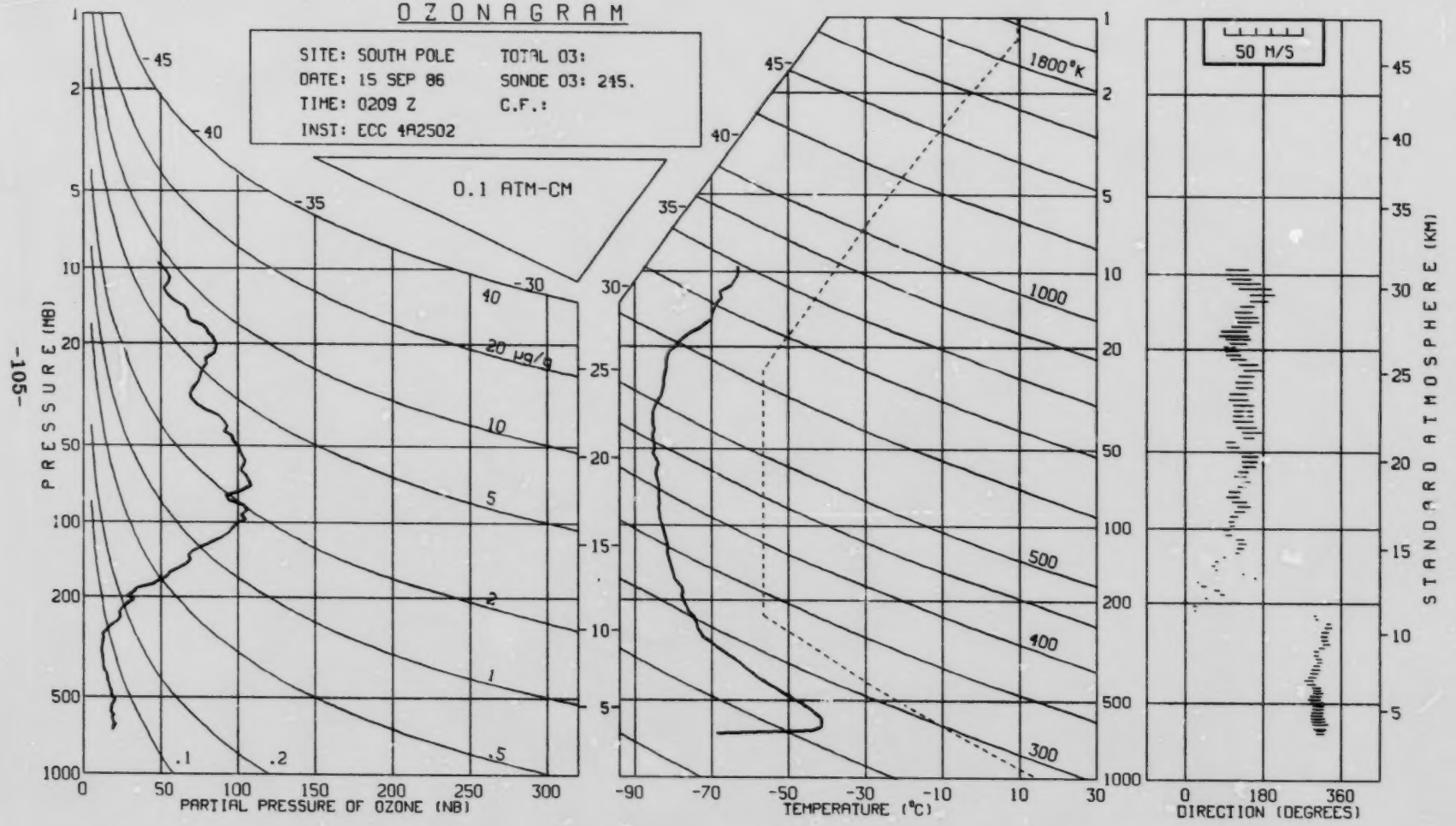
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
18.8	15.4	39.9	89.2	82.0	66.2	45.7	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110112098602           99        ECC    TOTAL O3 FROM SONDE DATA  210
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110212098602    677 21-58       500 17-48 12  7 300 16-67 15 11 200 31-77 21  9
1110312098602    150 50-81 23  9 100 86-84 52 10  70 96-87 77  9  50 99-86 71 10
1110412098602     30 72-84 89 1120.0 67-79107 1310.0 39-65119 19 661 20-54
1110512098602    645 19-42       630 20-41       262 12-71 22 12  87101-85 26  5
1110612098602     66103-87 38  7  57 83-85 77 10  45 70-85 92 10  41 80-85 89 13
1110712098602   25.8 60-81102 1723.8 70-81 93 14 8.4 29-60124 26
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 15 SEP 86 209 Z ECC SONDE: 4A2502
SURFACE CONDITIONS: PRESSURE 676.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.2 ORD;
O3 ORD ZERO 31.4, BKGND 31.5, CAL 69.6; O3 BKGND .014 MICROAMP; FLOW RATE 27.8 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 245.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	676.7	2800	18.7	.028	52.8	.0000	-68.9			228.4		
1	659.0	2968	19.1	.029	48.2	.0004	-43.9			258.3	5.3	312.
2	642.0	3144	20.5	.032	51.3	.0008	-42.0			262.4	5.3	312.
3	634.0	3228	19.5	.031	48.8	.0010	-41.7			263.7	7.8	311.
4	607.0	3523	18.5	.030	46.2	.0017	-41.7			267.0	9.8	313.
5	590.0	3715	19.5	.033	48.5	.0021	-41.7			269.1	8.5	308.
6	574.0	3901	17.4	.030	43.6	.0025	-42.7			270.1	8.4	307.
7	558.0	4091	17.9	.032	45.0	.0029	-43.8			271.0	7.6	304.
8	543.0	4273	17.9	.033	45.2	.0033	-44.6			272.1	7.4	306.
9	527.0	4472	19.3	.037	48.9	.0037	-45.9			272.9	7.3	307.
10	512.0	4663	20.0	.039	51.1	.0041	-47.2			273.6	7.3	307.
11	496.0	4872	18.2	.037	46.8	.0046	-48.7			274.3	8.0	304.
12	480.0	5086	18.0	.038	46.6	.0051	-50.0			275.2	7.8	299.
13	466.0	5278	17.6	.038	45.8	.0055	-51.7			275.4	7.2	302.
14	452.0	5475	16.6	.037	43.5	.0059	-52.8			276.5	6.2	307.
15	440.0	5648	16.6	.038	43.7	.0063	-53.9			277.2	4.9	305.
16	428.0	5824	15.4	.036	40.9	.0066	-55.4			277.5	5.6	303.
17	414.0	6035	15.4	.037	41.1	.0070	-56.7			278.5	5.7	292.
18	401.0	6236	14.9	.037	39.9	.0074	-58.3			279.0	5.5	286.
19	388.0	6442	13.5	.035	36.4	.0078	-59.3			280.3	5.5	294.
20	375.0	6654	12.7	.034	34.4	.0081	-60.7			281.1	5.0	298.
21	363.0	6855	12.7	.035	34.8	.0085	-62.0			282.0	5.3	302.
22	350.0	7079	12.2	.035	33.6	.0088	-63.1			283.5	4.5	305.
23	340.0	7256	12.1	.036	33.6	.0091	-64.3			284.3	3.7	310.
24	329.0	7456	11.6	.035	32.4	.0094	-65.7			285.0	3.5	309.
25	319.0	7642	11.6	.036	32.4	.0097	-67.1			285.6	3.2	303.
26	308.0	7852	12.0	.039	33.9	.0100	-68.6			286.3	3.0	303.
27	298.0	8049	12.4	.042	35.3	.0103	-69.7			287.5	3.5	316.
28	288.0	8251	12.9	.045	37.0	.0107	-71.1			288.4	4.2	327.
29	278.0	8459	12.0	.043	34.5	.0110	-72.5			289.2	4.0	323.
30	268.0	8674	15.2	.057	43.8	.0114	-73.0			291.6	3.9	321.
31	258.0	8896	17.3	.067	50.2	.0119	-73.8			293.7	4.4	324.
32	248.0	9126	21.8	.088	63.1	.0125	-74.0			296.6	3.9	331.
33	239.0	9341	23.8	.100	69.2	.0132	-74.5			299.0	2.5	332.
34	230.0	9564	23.3	.101	67.9	.0139	-75.0			301.5	1.7	304.
35	222.0	9768	24.5	.110	71.9	.0145	-76.1			302.9	1.2	301.
36	214.0	9979	27.6	.129	81.0	.0153	-76.6			305.3	1.2	22.
37	206.0	10197	32.2	.156	94.8	.0162	-77.2			307.8	2.2	22.
38	198.4	10412	28.7	.145	84.9	.0171	-77.7			310.2	1.9	0.
39	191.5	10614	32.5	.170	96.1	.0180	-78.0			312.9	1.2	48.
40	184.6	10823	34.5	.187	101.8	.0189	-77.7			316.7	2.3	85.
41	177.6	11044	45.0	.253	133.1	.0201	-78.0			319.7	3.2	72.
42	170.7	11269	48.9	.286	145.3	.0216	-78.9			321.9	3.2	42.
43	164.0	11496	54.0	.329	161.2	.0232	-79.8			324.1	1.1	29.
44	157.7	11717	55.8	.354	166.9	.0249	-80.1			327.3	1.2	162.
45	151.6	11939	61.5	.406	184.3	.0268	-80.4			330.4	1.0	134.
46	145.8	12159	66.1	.453	198.4	.0287	-80.7			333.6	1.4	71.
47	140.0	12387	69.3	.495	208.1	.0309	-81.0			336.9	2.0	64.
48	134.5	12612	68.1	.506	205.0	.0331	-81.3			340.3	1.7	72.
49	129.2	12837	70.6	.546	212.7	.0353	-81.7			343.6	1.6	90.

STATION: SOUTH POLE LAUNCH DATE: 15 SEP 86 209 Z ECC SONDE: 4A2502

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	124.3	13053	75.9	.611	228.9	.0375	-81.7			347.4	2.3	120.
51	119.4	13278	82.3	.689	248.2	.0400	-81.7			351.5	4.0	127.
52	114.5	13512	89.3	.780	269.7	.0428	-82.0			355.1	5.0	131.
53	109.8	13746	93.9	.855	284.0	.0459	-82.3			358.7	4.9	127.
54	105.3	13979	96.1	.913	291.1	.0490	-82.6			362.4	4.2	100.
55	101.0	14211	99.2	.982	301.2	.0522	-83.0			366.1	3.2	94.
56	97.6	14401	104.7	1.073	318.4	.0550	-83.3			369.1	3.1	109.
57	93.5	14639	102.0	1.091	310.9	.0585	-83.7			372.9	3.5	106.
58	89.5	14881	105.8	1.182	322.4	.0621	-83.7			377.6	4.9	112.
59	85.6	15128	103.6	1.210	316.2	.0657	-84.0			381.8	6.5	125.
60	81.9	15373	93.9	1.147	286.0	.0692	-83.7			387.3	8.3	136.
61	78.5	15608	92.2	1.175	281.4	.0723	-84.0			391.3	9.1	125.
62	75.2	15845	102.6	1.364	313.1	.0756	-84.0			396.2	8.3	110.
63	72.0	16085	108.5	1.507	331.2	.0792	-84.0			401.1	6.8	114.
64	68.8	16336	107.0	1.555	326.7	.0831	-84.0			406.4	5.0	131.
65	65.8	16582	105.4	1.602	322.4	.0868	-84.4			410.8	6.3	139.
66	62.9	16831	101.6	1.615	311.3	.0905	-84.7			415.3	7.4	127.
67	60.1	17082	103.5	1.722	316.6	.0942	-84.4			421.6	7.0	133.
68	57.4	17336	104.8	1.826	320.0	.0980	-84.0			428.0	8.7	148.
69	54.9	17582	102.7	1.871	314.7	.1016	-84.7			431.8	9.4	149.
70	52.4	17838	101.3	1.933	311.6	.1054	-85.5			435.9	10.2	150.
71	50.2	18074	100.1	1.994	307.3	.1088	-85.1			442.1	9.3	140.
72	47.9	18332	97.2	2.029	298.5	.1124	-85.1			448.1	7.8	111.
73	45.7	18590	96.3	2.107	296.3	.1160	-85.5			453.3	6.1	104.
74	43.7	18836	91.0	2.082	280.0	.1193	-85.5			459.1	7.1	147.
75	41.7	19093	93.2	2.235	286.0	.1227	-85.1			466.2	12.9	154.
76	40.0	19322	91.2	2.280	280.4	.1258	-85.5			470.9	13.1	141.
77	37.9	19618	87.1	2.298	268.0	.1295	-85.5			478.2	12.6	134.
78	36.0	19900	78.6	2.183	241.9	.1329	-85.5			485.3	12.8	134.
79	34.4	20150	73.2	2.128	224.8	.1356	-85.1			492.6	12.2	134.
80	32.8	20412	69.7	2.125	213.2	.1383	-84.4			501.2	13.3	134.
81	31.2	20689	69.0	2.212	210.0	.1411	-83.3			511.2	12.6	122.
82	29.6	20981	71.2	2.405	216.2	.1440	-83.0			519.9	11.0	122.
83	28.0	21290	74.4	2.657	225.6	.1472	-82.6			529.2	11.1	137.
84	26.6	21576	75.5	2.838	228.7	.1502	-82.6			537.0	10.6	135.
85	25.2	21877	76.6	3.040	231.8	.1534	-82.3			546.3	9.8	141.
86	23.9	22173	79.6	3.331	240.4	.1567	-82.0			555.6	11.9	157.
87	22.8	22436	79.1	3.469	238.8	.1597	-82.0			563.1	12.4	145.
88	21.8	22687	84.6	3.881	255.0	.1625	-81.7			571.3	10.4	122.
89	20.9	22923	85.4	4.086	257.1	.1654	-81.3			579.2	9.2	111.
90	20.1	23143	86.1	4.284	257.2	.1680	-79.8			590.4	7.5	107.
91	19.5	23314	84.7	4.344	252.2	.1701	-79.2			597.4	7.0	103.
92	18.8	23522	83.9	4.463	248.7	.1725	-78.3			606.4	10.9	122.
93	18.0	23771	80.8	4.489	237.8	.1753	-76.9			618.5	16.0	122.
94	17.4	23966	80.0	4.598	233.7	.1775	-75.6			628.8	19.2	112.
95	16.7	24205	77.2	4.623	222.9	.1800	-73.3			643.6	16.7	112.
96	16.0	24456	70.0	4.375	200.6	.1825	-71.8			656.2	12.5	130.
97	15.3	24720	67.9	4.438	193.0	.1849	-70.2			670.0	13.9	146.
98	14.6	24998	67.5	4.623	191.9	.1874	-70.0			679.8	14.7	142.
99	13.9	25290	64.9	4.669	184.0	.1900	-69.5			690.9	11.4	134.
100	13.2	25598	58.5	4.432	165.2	.1925	-68.9			703.5	9.2	143.
101	12.6	25877	54.4	4.317	152.8	.1946	-67.6			717.4	11.0	170.
102	11.9	26220	52.2	4.387	146.9	.1970	-68.0			727.7	16.2	177.
103	11.3	26533	55.1	4.876	152.9	.1992	-65.1			749.0	20.9	161.
104	10.8	26809	56.1	5.194	155.1	.2012	-64.3			761.6	17.9	140.

STATION: SOUTH POLE LAUNCH DATE: 15 SEP 86 209 Z ECC SONDE: 4A2502

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	10.4	27040	54.5	5.240	150.2	.2028	-63.5			772.7	15.8	124.
106	9.9	27317	51.7	5.201	142.3	.2047	-63.3			783.5	14.8	119.
107	9.5	27575	48.4	5.079	133.1	.2064	-63.3			793.0	14.8	119.

UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

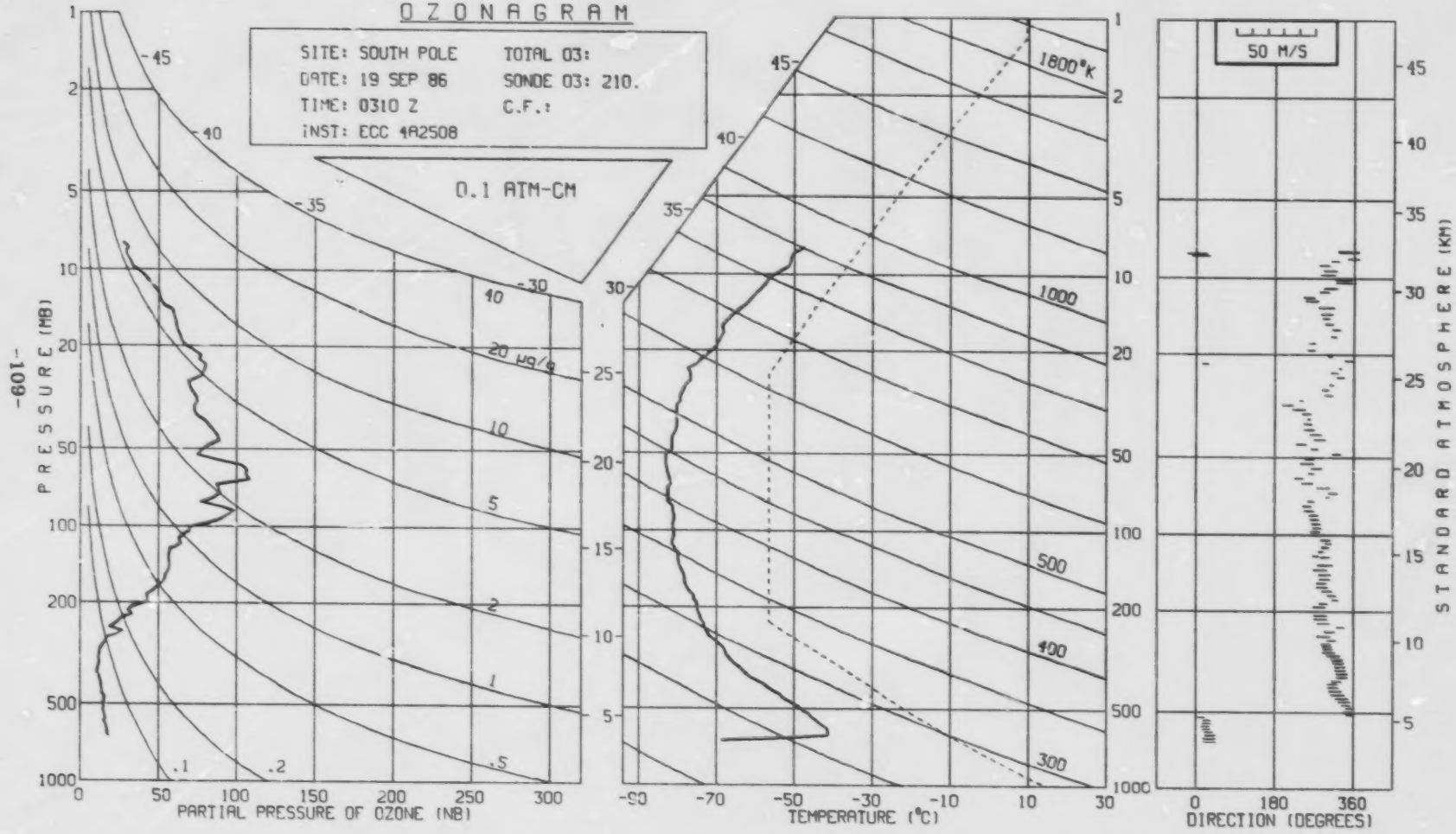
SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
18.9	14.4	45.3	98.5	91.3	78.3	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110115098602           99        ECC    TOTAL O3 FROM SONDE DATA  245
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110215098602    677 19-69       500 19-48305  8 300 12-69313  3 200 29-78  5  2
1110315098602    150 63-80117  1 100101-83 98  3  70108-84125  6  50100-85138  9
1110415098602     30 71-83122 1120.0 86-80106  710.0 52-63120 15 659 19-44312  5
1110515098602    642 21-42312  5 590 20-42308  9 129 71-82 90  2  90106-84112  5
1110615098602     79 92-84125  9  36 79-86134 1315.3 68-70146 1411.9 52-68177 16
1110715098602   1..3 55-65161 21 9.5 48-63119 15
```

BLANK PAGE



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 19 SEP 86 310 Z ECC SONDE: 4A2508
SURFACE CONDITIONS: PRESSURE 662.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.2 ORD;
O3 ORD ZERO 33.5, BKGND 33.7, CAL 70.7; O3 BKGND .028 MICROAMP; FLOW RATE 27.0 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 210.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	662.7	2800	18.1	.027	51.1	.0000	-68.9			229.8		
1	647.0	2949	17.2	.027	45.1	.0003	-53.0			249.3	7.5	31.
2	631.0	3114	17.1	.027	42.8	.0007	-41.7			264.0	7.5	31.
3	615.0	3283	16.7	.027	41.6	.0010	-41.6			266.1	6.3	33.
4	599.0	3466	16.2	.027	40.4	.0014	-41.7			267.9	5.6	29.
5	583.0	3649	14.9	.026	37.5	.0017	-42.8			268.7	5.5	23.
6	568.0	3824	16.3	.029	41.0	.0020	-43.9			269.4	5.7	20.
7	552.0	4015	15.4	.028	38.9	.0024	-44.7			270.8	5.2	24.
8	537.0	4198	14.9	.028	37.8	.0027	-45.8			271.6	4.8	24.
9	522.0	4386	14.4	.028	36.8	.0030	-46.5			272.9	5.0	11.
10	509.0	4552	14.9	.029	38.2	.0033	-48.0			273.1	4.8	352.
11	495.0	4735	14.4	.029	37.0	.0036	-48.9			274.2	4.8	348.
12	480.0	4936	15.3	.032	39.8	.0040	-50.4			274.8	4.9	351.
13	467.0	5114	15.3	.033	39.9	.0043	-51.6			275.4	5.8	344.
14	454.0	5296	13.5	.030	35.3	.0047	-53.2			275.7	7.5	340.
15	441.5	5475	13.9	.031	36.7	.0050	-53.8			277.1	8.4	334.
16	429.0	5658	13.0	.030	34.5	.0053	-55.6			277.1	8.6	324.
17	415.0	5868	13.0	.031	34.8	.0056	-57.1			277.8	8.3	319.
18	402.0	6068	12.1	.030	32.4	.0059	-58.3			278.8	7.4	314.
19	390.0	6257	12.0	.031	32.5	.0062	-60.0			278.9	6.6	312.
20	379.0	6434	10.2	.027	27.8	.0065	-61.7			279.0	6.3	322.
21	367.0	6632	11.2	.031	30.7	.0067	-62.8			280.1	6.9	334.
22	356.0	6819	11.6	.033	32.0	.0070	-63.7			281.3	6.7	335.
23	344.0	7028	12.1	.035	33.4	.0073	-64.7			282.7	6.5	331.
24	332.5	7234	11.6	.035	32.2	.0076	-65.9			283.8	6.7	330.
25	321.0	7447	12.0	.037	33.6	.0080	-66.8			285.6	6.8	326.
26	311.0	7637	12.0	.039	33.7	.0083	-67.6			287.0	7.5	323.
27	300.0	7853	13.3	.044	37.4	.0086	-68.0			289.4	8.5	315.
28	290.0	8056	15.0	.052	42.4	.0090	-68.4			291.6	7.8	304.
29	282.0	8223	16.3	.058	46.2	.0093	-69.3			292.7	6.4	302.
30	274.0	8394	16.8	.061	47.9	.0097	-70.2			293.8	6.0	300.
31	268.0	8525	22.5	.084	64.1	.0101	-70.9			294.6	6.2	298.
32	259.0	8726	26.7	.103	76.8	.0107	-72.1			295.8	6.1	310.
33	249.5	8945	18.9	.076	54.4	.0114	-72.6			298.3	8.5	292.
34	240.0	9172	23.2	.097	67.1	.0120	-73.3			300.5	6.6	306.
35	231.0	9395	26.6	.115	76.9	.0128	-73.5			303.4	5.1	330.
36	222.0	9626	32.8	.148	95.2	.0137	-74.3			305.7	7.8	292.
37	214.0	9839	30.6	.143	89.0	.0146	-74.5			308.5	8.2	285.
38	207.0	10032	33.5	.162	97.6	.0155	-75.1			310.7	8.4	285.
39	199.9	10234	42.5	.213	123.8	.0165	-75.1			313.8	8.1	290.
40	192.8	10443	43.1	.224	125.7	.0178	-75.3			316.6	7.7	282.
41	186.2	10644	42.8	.230	125.4	.0189	-76.1			318.5	5.4	292.
42	179.5	10855	46.3	.258	135.6	.0202	-76.1			321.9	4.3	318.
43	173.0	11067	48.9	.283	144.1	.0216	-77.2			323.5	5.1	311.
44	166.6	11283	52.3	.314	154.6	.0231	-77.8			326.0	6.4	300.
45	160.5	11496	54.1	.337	160.4	.0247	-78.3			328.6	7.4	289.
46	154.7	11706	54.5	.352	161.5	.0263	-78.3			332.0	6.4	287.
47	148.8	11927	56.4	.379	167.4	.0280	-78.6			335.3	6.6	295.
48	143.0	12153	57.1	.399	170.0	.0297	-79.2			338.1	7.7	295.
49	137.8	12363	57.0	.414	170.3	.0314	-79.8			340.6	8.3	284.

STATION: SOUTH POLE LAUNCH DATE: 19 SEP 86 310 Z ECC SONDE: 4A2508

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	132.4	12589	56.6	.427	169.4	.0332	-80.1			344.0	9.7	296.
51	123.2	12996	57.7	.468	172.7	.0364	-80.1			351.1	6.0	295.
52	122.3	13037	60.7	.496	181.9	.0368	-80.4			351.3	3.8	274.
53	117.7	13253	64.4	.547	193.6	.0387	-81.1			354.0	5.7	291.
54	113.2	13471	63.1	.557	190.3	.0406	-81.7			356.8	4.3	296.
55	109.0	13683	65.6	.602	197.6	.0426	-81.4			361.3	3.8	303.
56	105.0	13893	69.5	.662	208.8	.0446	-81.1			365.8	6.1	296.
57	100.2	14156	70.7	.706	212.6	.0471	-81.1			370.7	6.7	288.
58	96.9	14344	82.8	.854	249.3	.0492	-81.4			373.6	6.2	272.
59	93.4	14550	89.7	.960	270.1	.0517	-81.4			377.6	5.5	276.
60	89.7	14777	94.0	1.048	282.4	.0546	-81.1			382.6	5.3	274.
61	86.2	15000	97.8	1.135	293.9	.0576	-81.1			387.0	5.5	271.
62	83.0	15212	89.9	1.083	270.7	.0604	-81.4			390.5	5.7	269.
63	79.9	15425	77.7	.972	234.1	.0629	-81.4			394.8	6.0	258.
64	76.8	15646	85.4	1.112	258.8	.0655	-82.7			396.6	5.1	254.
65	73.8	15868	89.3	1.210	270.7	.0682	-82.7			401.1	3.9	263.
66	71.0	16083	88.4	1.245	267.9	.0709	-82.7			405.6	2.5	301.
67	68.3	16299	87.7	1.284	266.0	.0736	-82.7			410.1	5.6	314.
68	65.4	16541	108.1	1.653	326.5	.0770	-82.0			416.7	7.5	291.
69	62.7	16776	105.8	1.687	320.0	.0805	-82.3			421.0	7.0	255.
70	60.0	17021	106.4	1.773	322.6	.0842	-82.7			425.6	6.0	236.
71	57.4	17267	102.5	1.786	311.2	.0879	-83.0			430.2	3.6	264.
72	55.0	17504	87.6	1.593	266.4	.0911	-83.3			434.7	6.9	275.
73	52.8	17730	75.1	1.422	228.4	.0937	-83.3			439.8	8.5	254.
74	50.8	17944	77.5	1.526	235.6	.0960	-83.3			444.7	5.7	259.
75	48.5	18202	81.7	1.685	246.4	.0989	-81.7			454.6	5.5	321.
76	46.4	18450	89.0	1.918	268.3	.1019	-81.7			460.4	4.4	271.
77	44.6	18671	87.7	1.966	264.5	.1047	-81.7			465.6	6.9	241.
78	42.9	18889	85.4	1.991	257.1	.1073	-81.4			471.6	7.1	283.
79	41.0	19143	82.8	2.020	248.6	.1103	-80.7			479.3	7.9	274.
80	39.2	19396	80.3	2.048	240.5	.1132	-80.4			486.3	6.4	259.
81	37.4	19661	75.0	2.005	224.5	.1161	-80.4			492.8	4.8	256.
82	35.7	19923	72.9	2.042	218.9	.1188	-80.7			498.6	3.9	254.
83	34.1	20181	73.0	2.141	218.7	.1215	-80.4			506.0	5.5	253.
84	32.7	20417	74.8	2.287	224.0	.1239	-80.4			512.1	8.4	235.
85	31.3	20664	74.3	2.374	221.5	.1265	-79.5			521.0	6.9	210.
86	30.0	20904	72.0	2.400	214.7	.1289	-79.5			527.4	2.8	240.
87	28.5	21195	69.9	2.453	207.8	.1318	-78.9			536.8	5.4	303.
88	27.2	21461	69.4	2.551	205.8	.1344	-78.3			545.6	3.7	296.
89	26.0	21719	77.2	2.969	227.1	.1370	-76.9			556.7	2.5	309.
90	24.4	22084	79.8	3.270	234.9	.1409	-76.9			566.9	4.9	330.
91	23.4	22324	80.2	3.427	236.6	.1436	-77.5			572.1	4.7	316.
92	22.5	22550	76.1	3.382	222.2	.1460	-75.3			584.9	1.4	330.
93	21.7	22760	77.0	3.548	224.0	.1482	-74.5			593.3	3.8	20.
94	21.0	22951	73.7	3.510	212.3	.1501	-72.8			604.2	4.6	348.
95	20.3	23150	70.3	3.463	201.8	.1520	-72.1			612.3	2.5	306.
96	19.9	23267	67.5	3.392	192.9	.1531	-71.1			618.7	2.3	265.
97	19.1	23510	65.0	3.403	184.9	.1553	-70.2			628.8	4.9	263.
98	18.0	23863	63.7	3.539	180.3	.1583	-69.3			642.4	4.5	264.
99	17.0	24204	61.7	3.629	174.1	.1611	-68.4			655.7	3.2	315.
100	16.0	24567	61.2	3.825	172.7	.1640	-68.7			666.5	5.2	320.
101	15.2	24875	60.8	3.947	168.2	.1665	-67.4			680.6	4.9	304.
102	14.5	25160	59.2	4.083	164.9	.1687	-65.9			694.7	4.2	297.
103	14.0	25373	53.8	3.843	148.9	.1703	-64.5			706.4	7.3	299.
104	13.2	25734	51.2	3.879	140.2	.1727	-62.4			725.7	9.9	297.

STATION: SOUTH POLE LAUNCH DATE: 19 SEP 86 310 Z ECC SONDE: 4A2508

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.4	26121	50.2	4.048	136.4	.1752	-60.8			744.6	8.1	264.
106	12.0	26325	48.1	4.008	130.2	.1765	-60.0			754.1	6.9	257.
107	11.4	26646	45.6	4.000	122.6	.1784	-58.6			770.3	6.0	293.
108	11.0	26870	43.3	3.936	116.1	.1796	-57.8			781.3	8.7	307.
109	10.4	27224	40.1	3.856	106.9	.1815	-56.8			797.7	12.6	342.
110	10.1	27410	37.4	3.703	99.2	.1824	-55.6			808.7	10.0	336.
111	9.7	27688	33.2	3.433	87.4	.1836	-53.8			825.5	9.4	300.
112	9.3	27960	32.5	3.506	84.8	.1847	-51.8			843.4	8.6	306.
113	8.8	28268	30.3	3.428	78.8	.1859	-51.1			857.3	6.5	292.
114	8.5	28523	29.1	3.424	75.7	.1868	-51.0			867.5	5.3	317.
115	8.3	28678	29.5	3.554	76.6	.1873	-50.7			874.6	7.5	359.
116	8.1	28821	30.4	3.744	78.6	.1878	-50.1			882.5	11.5	10.
117	8.0	28934	29.2	3.659	75.3	.1883	-49.0			891.1	12.9	1.
118	7.9	29016	27.7	3.515	71.1	.1885	-48.4			896.7	12.8	348.
119	7.8	29083	27.4	3.513	70.0	.1888	-47.7			902.3	12.8	348.

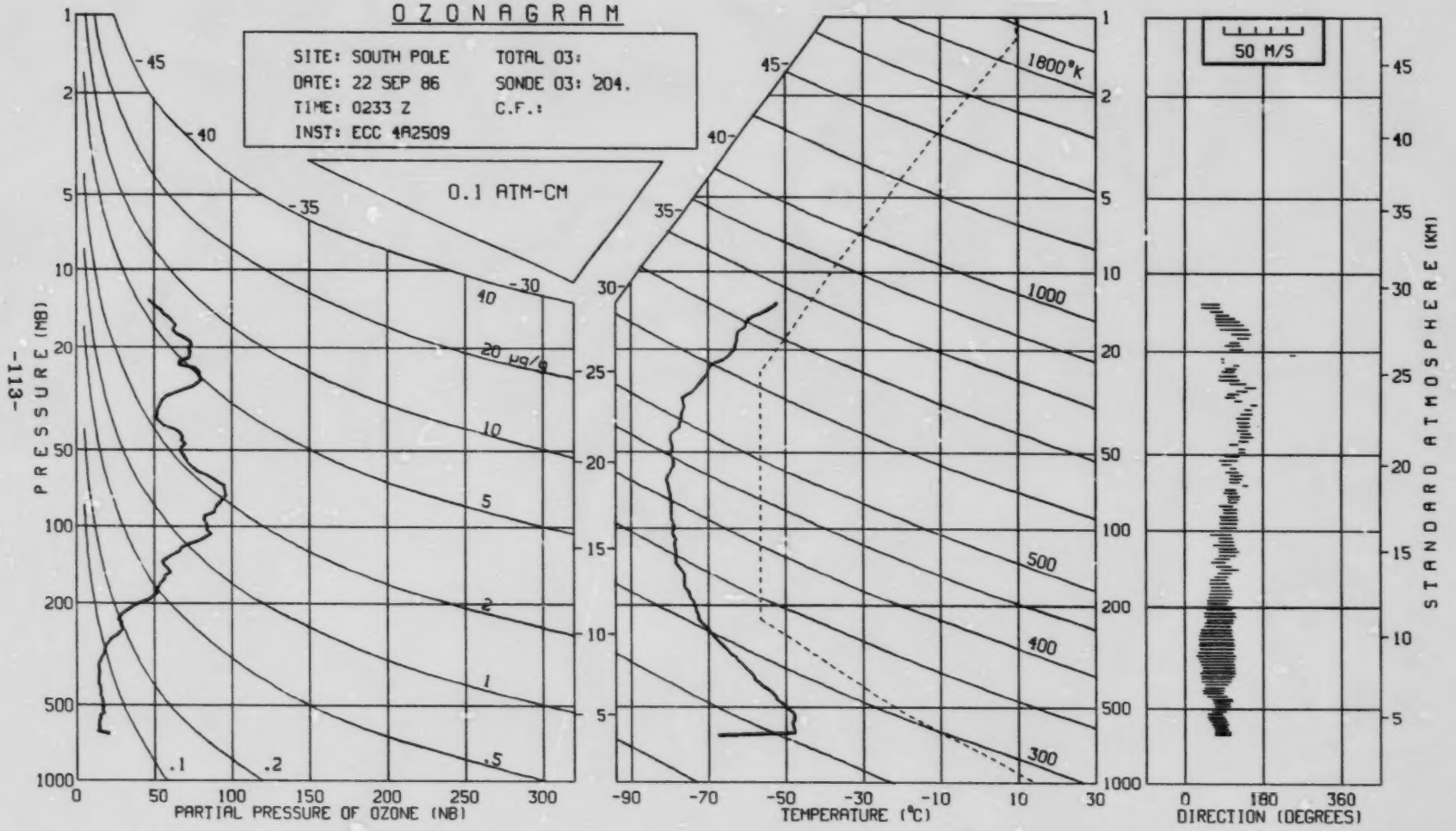
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
15.8	14.3	44.7	82.3	83.6	70.5	43.0	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110119098603	99	ECC	TOTAL O3 FROM SONDE DATA	210	
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110219098603	663 18-69	500 15-49349	5 300 13-68315	9 200 42-75290	8
1110319098603	150 56-79293 7	100 71-81287	7 70 88-83306	4 50 79-83280	6
1110419098603	30 72-80240	320.0 68-71275	210.0 36-55328	10 647 17-53 31	8
1110519098603	631 17-42 31 8	599 16-42 29	6 379 10-62322	6 259 27-72310	6
1110619098603	250 19-73292 9	93 90-81276	6 86 98-81271	6 80 78-81258	6
1110719098603	68 88-83314 6	65108-82291	8 60106-83236	6 57103-83264	4
1110819098603	53 75-83254 9	46 89-82271	423.4 80-78316	516.0 61-69320	5
1110919098603	7.8 27-48348 13				


OZONAGRAM
SITE: SOUTH POLE
DATE: 22 SEP 86
TIME: 0233 Z
INST: ECC 4A2509
TOTAL O3:
SONDE O3: 204.
C.F.:
0.1 ATM-CM
PRESSURE (MB)
PARTIAL PRESSURE OF OZONE (NB)
TEMPERATURE (°C)
DIRECTION (DEGREES)
STANDARD ATMOSPHERE (KM)
50 M/S
1800°K
1000
500
400
300
40
20 µg/g
10
5
2
1
.5
.2
.1

STATION: SOUTH POLE LAUNCH DATE: 22 SEP 86 233 Z ECC SONDE: 4A2509
SURFACE CONDITIONS: PRESSURE 651.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.6 ORD;
O3 ORD ZERO 31.8, BKGND 32.3, CAL 69.4; O3 BKGND .070 MICROAMP; FLOW RATE 27.9 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 : SONDE TOTAL O3 204.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	651.0	2800	20.9	.032	58.6	.0000	-67.8			232.2		
1	636.0	2946	13.5	.021	34.7	.0003	-48.0			256.3	10.0	87.
2	621.0	3103	14.7	.024	37.6	.0006	-48.0			258.0	10.0	87.
3	605.0	3275	14.2	.023	36.4	.0009	-48.2			259.6	8.2	84.
4	591.0	3429	14.5	.025	37.2	.0011	-48.4			261.2	8.5	81.
5	576.0	3598	14.5	.025	37.2	.0014	-48.5			263.0	10.7	81.
6	561.0	3771	15.2	.027	39.1	.0017	-48.1			265.5	10.7	78.
7	549.0	3913	14.9	.027	38.1	.0020	-48.1			267.1	10.3	74.
8	536.0	4071	17.8	.033	45.5	.0023	-48.0			269.1	10.5	71.
9	524.0	4220	16.5	.031	42.4	.0026	-48.4			270.3	9.8	69.
10	512.0	4372	17.3	.034	44.7	.0029	-49.4			270.9	9.2	78.
11	499.0	4540	16.1	.032	41.7	.0033	-50.3			271.8	9.9	87.
12	487.0	4698	16.9	.035	43.8	.0036	-51.0			272.9	9.8	86.
13	477.0	4832	16.3	.034	42.5	.0039	-51.7			273.6	10.6	84.
14	466.0	4982	16.1	.035	42.2	.0042	-52.7			274.2	12.1	87.
15	456.0	5122	14.9	.033	38.9	.0044	-52.7			276.0	13.1	85.
16	445.0	5279	15.4	.035	40.5	.0047	-53.5			276.9	12.9	73.
17	435.0	5425	15.0	.034	39.6	.0050	-54.1			277.9	12.8	64.
18	424.0	5588	15.0	.035	39.6	.0053	-55.1			278.7	13.5	66.
19	414.0	5739	13.7	.033	36.5	.0056	-56.4			278.9	13.0	68.
20	403.0	5909	14.1	.035	37.8	.0059	-57.2			280.0	14.8	72.
21	392.0	6083	14.0	.036	37.6	.0062	-58.3			280.8	18.9	72.
22	381.0	6262	14.0	.037	37.6	.0065	-58.4			282.9	19.3	73.
23	373.0	6395	14.7	.039	39.7	.0067	-58.8			284.2	20.8	75.
24	363.0	6565	14.3	.039	38.7	.0070	-59.7			285.2	22.3	75.
25	354.0	6721	14.1	.040	38.4	.0073	-60.5			286.1	20.4	77.
26	345.0	6881	14.1	.041	38.5	.0076	-61.1			287.4	20.1	77.
27	336.0	7044	15.5	.046	42.3	.0079	-62.0			288.3	21.3	76.
28	328.0	7192	15.8	.048	43.5	.0082	-62.8			289.3	21.7	73.
29	320.0	7344	17.1	.053	46.9	.0085	-63.1			290.8	23.1	72.
30	311.0	7518	18.2	.059	50.4	.0089	-64.5			291.3	25.2	71.
31	302.0	7697	18.0	.060	50.0	.0093	-65.1			292.9	22.0	71.
32	293.0	7880	18.8	.064	52.4	.0098	-66.1			294.0	22.1	73.
33	285.0	8047	20.6	.072	57.7	.0102	-67.1			294.9	22.7	73.
34	278.0	8196	22.0	.079	62.0	.0106	-67.8			296.1	21.5	73.
35	270.0	8371	25.6	.095	72.3	.0112	-68.6			297.3	22.1	72.
36	262.0	8550	27.9	.106	79.1	.0118	-69.3			298.9	21.3	71.
37	255.0	8711	29.9	.117	84.8	.0124	-69.7			300.6	20.0	71.
38	248.0	8876	28.8	.116	82.1	.0131	-70.6			301.6	19.8	73.
39	240.0	9070	28.7	.120	82.2	.0138	-71.6			303.1	16.6	75.
40	233.0	9244	26.8	.115	76.9	.0145	-72.3			304.6	17.7	78.
41	227.0	9397	27.5	.121	79.4	.0150	-72.8			306.1	16.9	81.
42	219.0	9607	30.1	.137	86.7	.0158	-72.8			309.3	19.9	81.
43	212.0	9797	33.2	.157	95.8	.0166	-73.3			311.4	19.5	80.
44	204.0	10022	37.4	.183	108.1	.0177	-73.5			314.4	15.9	79.
45	199.2	10161	40.7	.204	117.8	.0185	-73.8			316.2	14.7	77.
46	193.0	10345	46.7	.242	135.3	.0195	-74.0			318.6	12.5	74.
47	187.0	10528	49.4	.264	143.6	.0207	-74.8			320.3	13.4	76.
48	181.4	10704	51.9	.286	151.3	.0220	-75.0			322.7	14.1	81.
49	175.8	10885	51.8	.295	151.1	.0232	-75.3			325.1	14.7	83.

STATION: SOUTH POLE LAUNCH DATE: 22 SEP 86 233 Z ECC SONDE: 4A2509

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	170.5	11062	53.0	.311	155.4	.0245	-76.1			326.7	13.7	84.
51	165.5	11233	54.0	.326	158.3	.0258	-76.4			329.0	12.4	82.
52	160.5	11409	56.6	.353	165.9	.0271	-76.4			331.9	12.2	79.
53	155.6	11587	56.9	.366	166.9	.0285	-76.4			334.9	10.1	76.
54	150.8	11767	60.4	.401	177.3	.0299	-76.4			337.9	9.2	84.
55	146.3	11941	59.0	.403	173.5	.0314	-76.9			339.9	9.2	92.
56	141.7	12124	56.5	.399	166.9	.0328	-77.7			341.5	11.0	103.
57	137.4	12299	55.4	.403	164.4	.0342	-78.6			343.0	9.6	90.
58	133.2	12475	58.7	.441	174.3	.0356	-78.6			346.1	9.4	77.
59	129.1	12653	62.1	.481	184.4	.0371	-78.6			349.2	9.6	86.
60	125.0	12836	66.3	.530	196.7	.0387	-78.6			352.4	10.6	99.
61	120.9	13026	67.8	.561	201.3	.0405	-78.6			355.8	12.3	102.
62	117.4	13193	72.2	.615	214.6	.0421	-78.9			358.3	11.3	98.
63	113.8	13370	78.7	.692	233.9	.0439	-78.9			361.5	13.3	90.
64	110.3	13547	82.8	.751	245.8	.0459	-78.6			365.2	9.1	96.
65	106.9	13725	86.4	.808	257.2	.0480	-79.2			367.4	8.9	94.
66	103.6	13903	84.1	.812	250.6	.0501	-79.5			370.2	13.8	83.
67	100.0	14103	84.3	.843	250.6	.0525	-78.9			375.1	10.8	87.
68	97.2	14264	83.6	.860	248.9	.0544	-79.2			377.5	10.6	100.
69	94.1	14447	82.0	.871	244.3	.0565	-79.5			380.5	10.9	100.
70	91.3	14618	82.6	.905	246.6	.0584	-79.8			383.2	10.7	103.
71	88.5	14794	88.6	1.001	264.6	.0605	-79.8			386.6	10.9	100.
72	85.7	14976	89.2	1.041	266.4	.0628	-79.8			390.2	8.5	104.
73	83.1	15150	90.3	1.087	269.7	.0650	-79.8			393.6	8.6	104.
74	80.4	15337	92.5	1.150	276.3	.0674	-79.8			397.3	8.5	95.
75	77.8	15523	94.2	1.211	281.7	.0698	-80.1			400.5	5.5	110.
76	75.6	15685	96.3	1.274	288.1	.0719	-80.1			403.8	7.0	112.
77	73.5	15844	95.7	1.302	286.3	.0741	-80.1			407.0	7.7	113.
78	71.2	16023	95.1	1.336	284.8	.0765	-80.4			410.1	8.6	106.
79	68.8	16216	95.2	1.384	285.0	.0790	-80.4			414.1	6.8	105.
80	66.4	16416	90.7	1.366	272.0	.0817	-80.7			417.7	3.3	139.
81	64.1	16614	87.4	1.363	262.7	.0841	-81.0			421.2	6.0	115.
82	62.2	16783	83.3	1.339	250.0	.0862	-80.7			425.5	7.8	118.
83	60.3	16958	77.6	1.287	232.0	.0881	-80.1			430.7	8.4	120.
84	58.4	17139	75.1	1.286	224.3	.0901	-79.8			435.3	8.3	109.
85	56.4	17336	72.3	1.282	215.3	.0921	-79.2			441.1	3.8	112.
86	54.5	17530	70.9	1.301	211.1	.0940	-79.2			445.4	6.1	96.
87	52.5	17742	69.3	1.320	206.5	.0961	-79.5			449.5	11.3	100.
88	50.6	17950	67.4	1.332	201.6	.0981	-80.1			452.8	8.7	109.
89	48.9	18143	67.6	1.382	201.4	.0999	-79.5			458.7	3.9	132.
90	47.3	18331	70.4	1.488	210.0	.1017	-79.5			463.1	3.9	132.
91	45.7	18526	67.2	1.470	200.7	.1036	-79.8			466.9	4.9	113.
92	44.3	18702	68.4	1.544	204.6	.1052	-80.1			470.4	5.8	134.
93	42.9	18883	66.4	1.548	198.4	.1069	-79.8			475.5	8.0	143.
94	41.5	19071	63.0	1.518	187.4	.1086	-78.9			482.2	7.2	140.
95	40.2	19252	56.2	1.398	166.1	.1101	-77.7			489.5	6.6	133.
96	38.8	19454	53.4	1.376	157.6	.1117	-77.7			494.5	7.0	137.
97	37.6	19634	50.9	1.354	150.0	.1130	-77.2			500.4	7.3	134.
98	36.2	19851	52.0	1.436	153.1	.1145	-77.2			505.8	8.7	134.
99	34.9	20061	51.8	1.484	152.3	.1160	-76.9			511.9	7.3	142.
100	33.5	20296	53.6	1.600	157.4	.1177	-76.4			519.3	4.7	146.
101	32.2	20523	54.9	1.705	161.3	.1194	-76.6			524.5	3.7	159.
102	31.1	20722	57.3	1.842	168.6	.1209	-76.9			529.0	4.2	123.
103	30.2	20891	62.7	2.076	183.5	.1223	-75.8			536.4	6.4	104.
104	29.4	21046	68.4	2.327	198.4	.1237	-74.3			544.8	7.2	112.

STATION: SOUTH POLE LAUNCH DATE: 22 SEP 86 233 Z ECC SONDE: 4A2509

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	28.5	21227	75.1	2.635	217.1	.1255	-73.5			551.8	6.6	131.
106	27.7	21393	77.9	2.812	224.4	.1272	-72.8			558.3	6.9	151.
107	26.8	21587	80.3	2.996	230.6	.1293	-72.0			565.6	10.0	122.
108	25.9	21788	79.0	3.050	226.1	.1314	-71.3			573.2	13.1	101.
109	25.0	21997	79.2	3.168	225.6	.1336	-70.4			581.7	11.3	98.
110	24.1	22214	76.4	3.170	217.2	.1359	-70.2			588.5	8.0	99.
111	23.4	22389	66.2	2.829	187.8	.1375	-69.7			594.8	7.0	105.
112	22.7	22570	66.6	2.934	188.1	.1391	-68.9			602.5	3.2	118.
113	22.0	22758	72.4	3.291	202.4	.1408	-66.5			614.9	1.0	87.
114	21.3	22954	73.0	3.427	202.5	.1427	-65.1			624.9	1.5	87.
115	20.6	23158	73.1	3.549	202.2	.1446	-64.3			633.3	3.4	248.
116	20.0	23339	72.0	3.600	198.2	.1463	-63.5			641.0	3.7	220.
117	19.5	23494	74.1	3.800	203.9	.1478	-63.3			646.3	8.2	119.
118	18.8	23718	73.4	3.904	201.7	.1499	-63.1			653.7	10.1	110.
119	18.3	23883	69.6	3.803	191.0	.1514	-62.8			659.9	6.2	114.
120	17.6	24123	64.6	3.670	177.4	.1535	-62.8			667.3	6.9	134.
121	17.0	24336	62.1	3.653	170.3	.1552	-62.6			674.5	12.6	130.
122	16.3	24596	64.0	3.926	174.0	.1573	-60.7			688.7	18.1	114.
123	15.7	24829	61.5	3.917	167.0	.1592	-60.5			696.7	17.4	104.
124	15.2	25030	59.2	3.895	160.1	.1607	-59.8			705.5	15.2	98.
125	14.8	25197	56.1	3.791	150.8	.1619	-58.6			715.0	12.0	92.
126	14.4	25369	55.0	3.819	146.8	.1631	-56.7			727.0	8.0	85.
127	14.0	25548	51.9	3.707	137.3	.1643	-54.9			739.0	7.8	72.
128	13.5	25781	49.0	3.630	128.5	.1657	-53.1			752.8	11.7	58.
129	13.1	25975	46.5	3.550	121.6	.1669	-52.4			762.0	11.7	58.

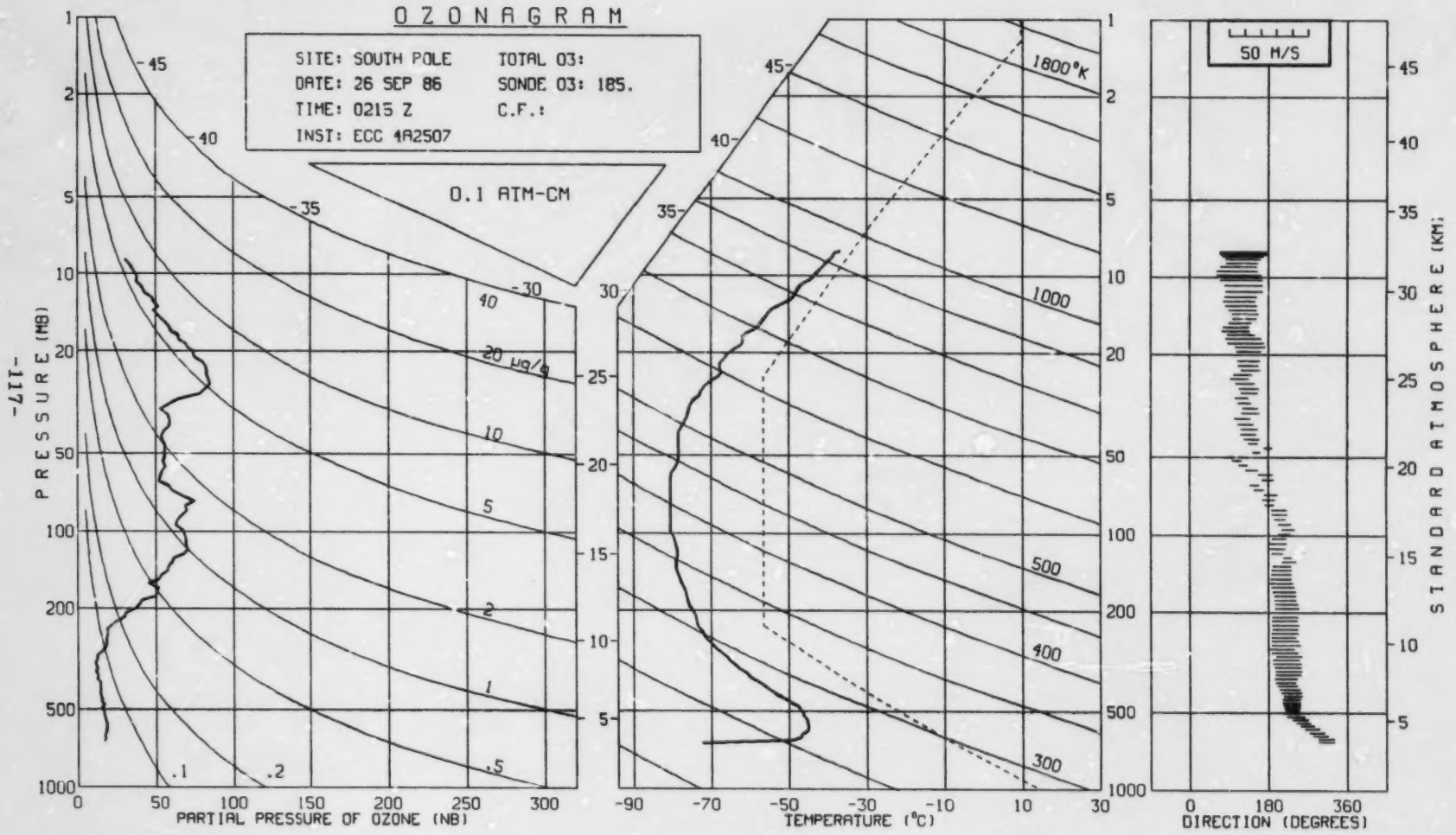
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
15.6	17.6	47.2	86.2	63.8	70.7	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR    COMMENTS
1110122098603             99          ECC    TOTAL O3 FROM SONDE DATA  204
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110222098603    651 21-68        500 16-50 86 10 300 18-65 71 22 200 40-74 77 15
1110322098603    150 60-76 85   9 100 84-79 87 11  70 95-80106  8  50 67-80117  7
1110422098603     30 64-75106  720.0 72-64220  4 636 14-48 87 10 536 18-48 71 11
1110522098603    255 30-70 71 20 233 27-72 78 18 137 55-79 90 10 107 86-79 94  9
1110622098603     44 68-80134  6  38 51-77134  726.8 80-72122 1022.7 67-69118  3
1110722098603   15.2 59-60 98 1513.1 47-52 58 12
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 26 SEP 86 215 Z ECC SONDE: 4A2507
SURFACE CONDITIONS: PRESSURE 664.2 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.6 ORD;
O3 ORD ZERO 33.5, BKGND 33.8, CAL 71.1; O3 BKGND .042 MICROAMP; FLOW RATE 29.0 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 SONDE TOTAL O3 185.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	664.2	2808	17.0	.026	49.0	.0000	-72.5			225.5		
1	647.0	2963	17.5	.027	45.1	.0004	-49.3			253.5	9.8	313.
2	630.0	3138	17.0	.027	43.5	.0007	-47.2			257.8	9.8	313.
3	613.0	3319	18.0	.029	45.8	.0011	-46.9			260.2	9.4	299.
4	596.0	3505	18.2	.031	46.1	.0015	-45.5			264.0	9.4	290.
5	579.0	3698	18.4	.032	46.5	.0019	-45.3			266.3	9.1	280.
6	564.0	3873	18.3	.032	46.4	.0023	-45.5			268.2	8.8	268.
7	548.0	4064	17.3	.032	44.0	.0027	-45.6			270.2	9.0	260.
8	533.0	4248	16.9	.032	42.9	.0031	-45.9			272.0	9.9	252.
9	518.0	4437	16.5	.032	42.1	.0035	-46.6			273.4	11.1	242.
10	504.0	4618	16.5	.033	42.0	.0038	-46.8			275.3	10.0	234.
11	490.0	4804	15.0	.031	38.3	.0042	-47.4			276.8	9.1	234.
12	476.0	4995	16.9	.036	43.4	.0045	-48.1			278.2	9.8	234.
13	464.0	5162	14.8	.032	38.1	.0048	-49.3			278.8	10.8	233.
14	451.0	5347	15.2	.034	39.4	.0052	-50.7			279.4	11.5	233.
15	438.0	5537	14.5	.033	38.0	.0055	-52.0			279.9	11.2	233.
16	425.0	5731	14.1	.033	37.1	.0059	-53.5			280.6	11.5	235.
17	412.0	5930	14.1	.034	37.2	.0062	-54.6			281.6	12.8	232.
18	398.0	6150	14.1	.035	37.4	.0066	-55.9			282.7	13.2	228.
19	385.0	6360	14.0	.036	37.5	.0070	-57.1			283.9	12.5	223.
20	373.0	6559	11.9	.032	32.0	.0073	-58.6			284.4	12.9	219.
21	361.0	6763	12.8	.035	34.6	.0076	-60.2			284.9	14.1	220.
22	348.0	6991	11.4	.033	31.0	.0080	-61.1			286.7	16.1	225.
23	336.0	7208	12.3	.037	33.7	.0083	-62.8			287.3	16.7	226.
24	325.0	7412	10.9	.034	30.1	.0086	-63.9			288.5	16.8	224.
25	314.0	7622	12.2	.039	34.0	.0089	-65.3			289.4	17.7	223.
26	304.0	7818	12.2	.040	34.0	.0092	-65.9			291.2	17.0	220.
27	295.0	7999	14.4	.049	40.4	.0095	-66.9			292.3	16.8	227.
28	286.0	8185	17.1	.060	48.1	.0099	-68.2			293.1	17.0	217.
29	277.0	8376	18.1	.065	51.2	.0104	-69.3			294.2	17.0	209.
30	267.0	8595	18.4	.069	52.5	.0109	-70.2			296.0	18.5	221.
31	257.0	8821	18.4	.072	52.7	.0114	-71.3			297.5	17.4	219.
32	249.0	9007	18.8	.076	54.0	.0119	-72.0			299.2	15.4	215.
33	240.0	9223	18.8	.078	54.0	.0124	-72.5			301.6	17.2	217.
34	232.0	9421	21.4	.092	61.8	.0130	-73.5			303.1	16.3	218.
35	224.0	9626	24.7	.110	71.7	.0136	-73.8			305.8	17.1	219.
36	215.0	9865	29.8	.139	86.5	.0145	-74.0			309.0	16.2	217.
37	208.0	10057	30.6	.147	88.8	.0153	-74.3			311.5	16.1	218.
38	200.0	10285	37.2	.186	108.5	.0163	-75.0			313.8	16.2	220.
39	193.3	10482	39.6	.205	115.9	.0174	-75.8			315.6	14.8	222.
40	186.5	10688	40.9	.219	119.9	.0185	-76.1			318.4	14.6	221.
41	179.8	10899	50.2	.279	147.3	.0198	-76.4			321.3	13.3	218.
42	173.2	11114	50.5	.292	148.2	.0213	-76.6			324.3	13.5	218.
43	166.8	11330	51.6	.309	151.9	.0228	-76.9			327.4	14.7	216.
44	160.4	11554	45.8	.286	135.1	.0243	-77.5			330.1	14.9	213.
45	154.5	11768	51.7	.335	153.1	.0258	-78.0			332.7	14.4	210.
46	148.3	12001	53.4	.360	158.3	.0275	-78.3			336.1	13.0	208.
47	142.4	12232	57.6	.404	171.3	.0293	-78.9			339.8	12.6	209.
48	136.8	12460	58.1	.425	172.8	.0311	-79.2			342.4	13.0	210.
49	131.7	12675	60.5	.459	180.0	.0329	-79.2			346.2	11.5	211.

STATION: SOUTH POLE LAUNCH DATE: 26 SEP 86 215 Z ECC SONDE: 4A2507

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	126.7	12894	61.6	.486	183.3	.0347	-79.2			350.0	9.2	227.
51	121.7	13122	68.2	.560	202.7	.0368	-78.9			354.6	6.4	227.
52	116.8	13355	70.4	.603	209.3	.0390	-78.9			358.8	7.2	200.
53	112.1	13588	69.6	.621	207.2	.0413	-79.2			362.5	10.9	198.
54	107.5	13825	69.5	.647	207.2	.0436	-79.5			366.3	11.9	200.
55	103.0	14067	68.7	.667	205.2	.0459	-79.8			370.2	9.0	204.
56	98.8	14302	67.4	.682	202.3	.0482	-80.7			372.8	7.1	216.
57	94.7	14540	62.8	.663	188.4	.0503	-80.7			377.4	8.0	226.
58	90.8	14777	63.9	.704	191.6	.0525	-80.7			381.9	8.2	217.
59	86.9	15024	66.7	.768	200.1	.0547	-80.7			386.8	7.3	206.
60	83.3	15262	70.0	.840	210.0	.0570	-80.7			391.5	9.8	205.
61	79.6	15518	69.1	.868	207.2	.0595	-80.7			396.6	9.7	205.
62	76.3	15756	74.5	.976	223.4	.0619	-80.7			401.4	5.9	182.
63	73.0	16005	67.3	.922	202.0	.0644	-80.7			406.5	7.8	181.
64	69.8	16257	60.7	.870	182.0	.0666	-80.7			411.8	8.5	185.
65	66.8	16504	58.6	.877	175.8	.0687	-80.7			417.0	6.3	159.
66	64.1	16736	52.2	.814	156.6	.0705	-80.7			421.9	5.3	148.
67	61.4	16978	52.9	.862	158.8	.0723	-80.7			427.1	7.0	179.
68	58.7	17231	54.3	.925	162.8	.0742	-80.4			433.3	8.9	173.
69	56.3	17467	56.2	.998	167.5	.0760	-79.5			440.6	7.5	142.
70	53.9	17714	54.7	1.015	162.5	.0779	-78.9			447.5	5.2	122.
71	51.7	17951	55.8	1.079	165.5	.0797	-78.6			453.5	6.0	107.
72	49.7	18175	55.6	1.119	165.1	.0815	-78.6			458.7	7.0	100.
73	47.7	18409	56.0	1.174	166.2	.0833	-78.6			464.1	4.5	152.
74	45.8	18640	56.2	1.227	166.9	.0851	-78.6			469.5	5.0	179.
75	43.9	18881	54.4	1.239	161.4	.0869	-78.6			475.2	6.0	144.
76	42.2	19106	53.5	1.268	158.8	.0886	-78.6			480.6	9.7	142.
77	40.2	19382	55.6	1.383	165.1	.0907	-78.6			487.3	10.1	134.
78	38.4	19643	58.8	1.531	174.0	.0928	-78.0			495.2	10.6	137.
79	36.6	19917	59.2	1.617	174.3	.0950	-77.2			504.2	9.7	127.
80	34.9	20190	57.9	1.659	169.9	.0972	-76.4			513.3	9.8	120.
81	33.3	20460	53.2	1.598	155.8	.0992	-76.1			520.9	11.1	139.
82	31.8	20726	58.6	1.843	171.4	.1013	-75.8			528.5	9.8	138.
83	30.4	20986	64.7	2.128	188.7	.1035	-75.0			537.5	7.9	125.
84	29.1	21240	78.2	2.687	225.9	.1059	-73.3			549.2	8.5	118.
85	27.8	21507	81.6	2.935	235.0	.1088	-72.8			557.7	10.5	137.
86	26.7	21744	84.7	3.172	243.1	.1115	-72.0			566.2	12.6	135.
87	25.6	21992	84.2	3.289	239.7	.1143	-70.4			577.7	11.9	126.
88	24.5	22229	82.7	3.362	233.1	.1169	-68.4			590.1	11.6	114.
89	23.7	22452	82.8	3.494	232.6	.1193	-67.6			598.9	11.9	121.
90	22.8	22684	82.3	3.610	231.7	.1218	-68.0			604.3	12.4	139.
91	21.9	22926	80.3	3.667	225.9	.1244	-68.0			611.3	12.9	134.
92	21.0	23178	74.9	3.567	209.8	.1270	-66.9			621.9	14.2	135.
93	20.0	23473	74.3	3.715	206.7	.1299	-65.7			634.4	14.8	132.
94	19.4	23658	70.6	3.639	195.2	.1316	-64.3			644.2	15.4	135.
95	18.7	23883	69.7	3.727	191.2	.1336	-62.6			656.4	19.4	138.
96	18.0	24118	65.0	3.611	177.9	.1357	-62.0			665.4	23.5	128.
97	17.3	24363	64.4	3.723	176.1	.1377	-62.2			672.4	22.8	122.
98	16.7	24581	59.9	3.587	163.0	.1394	-60.9			683.3	18.0	117.
99	16.2	24770	59.2	3.654	159.6	.1409	-58.9			695.7	17.5	105.
100	15.6	25007	57.1	3.660	153.2	.1426	-57.9			706.6	16.8	107.
101	15.0	25254	54.1	3.607	144.6	.1443	-57.1			717.4	13.9	115.
102	14.4	25512	51.6	3.583	137.3	.1460	-56.2			728.7	15.2	125.
103	13.8	25782	48.7	3.529	129.1	.1477	-55.4			740.4	16.8	127.
104	13.3	26018	51.7	3.887	135.3	.1492	-54.3			752.1	17.8	120.

STATION: SOUTH POLE LAUNCH DATE: 26 SEP 86 215 Z ECC SONDE: 4A2507

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.8	26264	48.8	3.813	127.4	.1507	-52.0			768.1	20.4	117.
106	12.3	26523	47.8	3.886	123.6	.1522	-49.7			785.0	20.1	112.
107	11.8	26795	43.0	3.644	110.7	.1537	-48.8			797.5	20.9	116.
108	11.3	27079	41.6	3.681	106.6	.1551	-48.1			810.1	23.5	124.
109	10.7	27439	37.4	3.495	95.5	.1568	-46.9			827.2	24.3	123.
110	10.2	27757	38.2	3.745	96.4	.1583	-44.3			848.1	27.0	117.
111	9.8	28025	36.4	3.714	91.4	.1594	-43.4			861.6	28.3	112.
112	9.4	28277	34.5	3.655	86.3	.1605	-42.2			875.1	25.9	109.
113	9.1	28525	33.0	3.626	82.3	.1615	-41.3			888.0	23.1	112.
114	8.8	28760	30.4	3.458	75.5	.1623	-40.4			900.1	20.5	119.
115	8.5	28973	0.0	0.000	0.0	.1627	-39.2			912.9	22.2	121.
116	8.3	29144	0.0	0.000	0.0	.1627	-38.9			920.5	25.8	122.
117	8.2	29277	0.0	0.000	0.0	.1627	-38.5			927.3	28.4	123.
118	8.1	29361	0.0	0.000	0.0	.1627	-37.8			933.2	30.4	123.
119	8.0	29404	0.0	0.000	0.0	.1627	-37.0			938.1	30.4	123.

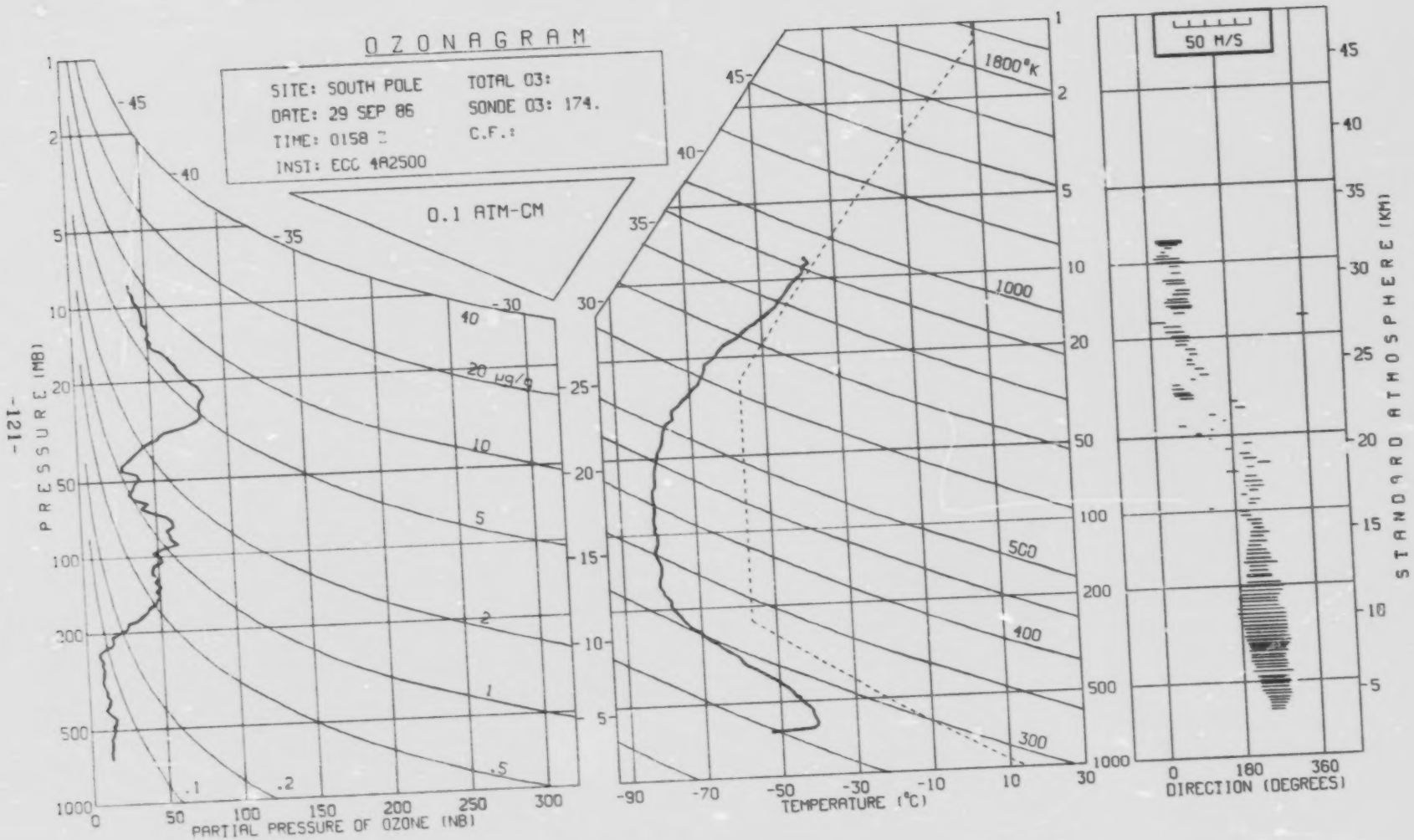
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.4	14.5	43.1	66.0	55.9	73.8	42.4	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110126098602	99	ECC	TOTAL O3 FROM SONDE DATA	185	
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110226098602	664 17-73	500 16-47234	10 300 13-66223	17 200 37-75220	16
1110326098602	150 53-78209	13 100 68-80213	8 70 61-81185	8 50 56-79101	7
1110426098602	30 69-74123	820.0 74-66132	1510.0 37-44115	28 647 18-49313	10
1110526098602	596 18-46290	9 249 19-72215	15 180 50-76218	13 160 46-78213	15
1110626098602	117 70-79200	7 95 63-81226	8 76 75-81182	6 64 52-81148	5
1110726098602	40 56-79134	10 33 53-76139	1126.7 85-72135	1324.6 83-68114	12
1110826098602	8.8 30-40119	21 8.5 0-39121	22 8.0 0-37123	30	



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 29 SEP 86 158 Z ECC SONDE: 4A2500
SURFACE CONDITIONS: PRESSURE 660.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.4 ORD;
O3 ORD ZERO 33.0, BKGND 33.4, CAL 70.4; O3 BKGND .056 MICROAMP; FLOW RATE 27.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 174.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	660.5	2800	13.6	.021	35.7	.0000	-52.9			248.0		
1	645.0	2957	13.5	.021	33.8	.0003	-41.8			262.2	9.3	256.
2	628.0	3138	13.0	.021	32.3	.0005	-40.7			265.5	9.3	256.
3	611.0	3324	13.0	.021	32.3	.0008	-40.5			267.9	11.2	259.
4	594.0	3516	13.8	.023	34.2	.0011	-40.9			269.6	12.7	260.
5	578.0	3701	13.7	.024	34.2	.0014	-41.3			271.2	15.0	259.
6	560.0	3915	14.1	.025	35.2	.0018	-41.7			273.2	17.6	258.
7	543.0	4123	13.6	.025	34.0	.0021	-41.7			275.6	18.7	254.
8	526.0	4338	15.0	.029	37.6	.0025	-42.8			276.7	18.6	250.
9	510.0	4545	15.4	.030	38.8	.0028	-43.9			277.8	18.3	251.
10	495.0	4745	15.9	.032	40.1	.0032	-44.8			279.2	19.3	252.
11	481.0	4936	15.3	.032	38.6	.0035	-45.1			281.1	14.6	248.
12	479.0	4963	16.7	.035	42.3	.0036	-45.9			280.4	20.5	248.
13	455.0	5304	17.1	.038	43.7	.0043	-47.0			283.3	26.7	248.
14	441.0	5510	14.8	.034	37.9	.0047	-48.1			284.3	20.7	245.
15	429.0	5691	12.8	.030	33.1	.0050	-49.2			285.3	22.8	244.
16	415.0	5908	10.9	.026	28.3	.0053	-50.4			286.4	23.9	240.
17	401.0	6131	12.8	.032	33.5	.0056	-51.9			287.2	21.8	238.
18	389.0	6327	13.3	.034	34.9	.0059	-53.5			287.7	22.9	240.
19	375.0	6561	13.9	.037	36.7	.0063	-55.1			288.6	25.6	240.
20	365.0	6733	12.5	.034	33.3	.0066	-56.1			289.5	22.7	239.
21	356.0	6891	11.5	.032	30.8	.0068	-57.4			289.8	24.5	241.
22	348.0	7034	12.0	.034	32.3	.0070	-58.8			289.8	27.5	242.
23	335.0	7272	11.0	.033	29.8	.0074	-59.7			291.8	29.3	242.
24	323.0	7499	10.0	.031	27.3	.0077	-60.4			293.8	29.6	238.
25	310.0	7754	9.6	.031	26.2	.0080	-62.0			295.0	28.1	239.
26	300.0	7956	10.4	.035	28.8	.0083	-63.6			295.7	28.5	237.
27	290.0	8163	10.4	.036	28.9	.0085	-65.1			296.3	29.3	235.
28	280.0	8376	10.9	.039	30.3	.0088	-66.1			297.8	28.6	235.
29	270.0	8595	9.6	.036	26.9	.0091	-68.0			298.2	30.6	230.
30	260.0	8821	10.5	.040	29.6	.0094	-69.3			299.5	31.8	229.
31	250.0	9054	8.2	.033	23.4	.0097	-70.7			300.9	31.4	227.
32	241.0	9270	8.2	.034	23.5	.0100	-72.6			301.2	25.8	224.
33	232.0	9493	11.8	.051	34.0	.0103	-73.5			303.0	24.5	224.
34	226.0	9645	16.6	.073	48.3	.0106	-74.5			303.8	25.3	221.
35	219.0	9827	17.9	.082	52.2	.0110	-75.1			305.7	24.8	228.
36	210.0	10069	16.9	.080	49.6	.0116	-76.1			307.8	27.6	231.
37	202.0	10292	21.6	.107	63.8	.0121	-77.2			309.5	28.2	232.
38	195.5	10479	27.1	.139	80.2	.0128	-77.8			311.5	22.5	237.
39	185.0	10794	28.5	.154	84.3	.0140	-77.8			316.4	16.2	228.
40	181.8	10893	34.3	.189	101.9	.0144	-78.6			316.6	16.1	228.
41	175.2	11103	37.6	.215	112.2	.0155	-79.5			318.5	12.8	227.
42	168.7	11317	40.9	.242	122.2	.0166	-79.8			321.5	12.6	227.
43	162.3	11535	42.6	.262	127.7	.0179	-80.7			323.5	21.8	232.
44	156.5	11740	46.8	.299	140.5	.0192	-80.7			326.9	16.2	228.
45	150.6	11956	48.4	.321	144.9	.0206	-80.4			331.0	15.5	227.
46	144.9	12173	50.2	.346	150.2	.0221	-80.1			335.2	12.9	224.
47	139.3	12395	47.9	.344	143.2	.0237	-80.1			339.0	8.7	220.
48	134.0	12614	51.3	.383	153.5	.0252	-80.1			342.8	12.0	228.
49	128.4	12854	47.6	.371	142.8	.0269	-80.7			345.9	9.1	227.

STATION: SOUTH POLE LAUNCH DATE: 29 SEP 86 158 Z ECC SONDE: 4A2500

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	123.5	13073	49.2	.398	147.8	.0283	-81.1			349.2	12.7	234.
51	119.0	13281	45.8	.385	137.7	.0297	-81.4			352.3	6.8	232.
52	114.4	13502	46.0	.402	138.2	.0312	-81.1			356.9	7.3	227.
53	109.9	13727	47.1	.429	141.2	.0326	-80.7			361.6	10.2	222.
54	105.2	13973	52.9	.503	158.6	.0344	-80.7			366.2	6.6	203.
55	101.0	14202	51.5	.510	154.7	.0360	-80.7			370.5	6.3	200.
56	97.3	14411	47.5	.488	142.9	.0375	-81.4			373.2	2.8	122.
57	93.5	14634	53.6	.573	161.2	.0391	-81.1			378.1	5.0	219.
58	89.9	14854	63.6	.707	191.6	.0409	-81.4			381.7	6.9	226.
59	86.0	15103	59.1	.687	177.9	.0430	-81.4			386.6	3.7	201.
60	82.9	15309	59.0	.712	177.4	.0448	-81.1			391.3	5.0	225.
61	79.6	15537	56.9	.715	171.0	.0466	-81.1			395.9	12.6	228.
62	76.3	15775	61.3	.803	184.1	.0486	-81.1			400.7	12.4	224.
63	73.0	16023	60.5	.829	182.0	.0507	-81.4			405.1	7.5	220.
64	69.9	16266	56.4	.807	169.7	.0527	-81.4			410.2	7.7	177.
65	66.9	16512	46.3	.692	139.5	.0545	-81.4			415.4	5.2	220.
66	64.3	16735	40.9	.636	122.8	.0559	-80.7			421.5	8.7	252.
67	61.8	16958	45.0	.728	135.1	.0572	-80.7			426.3	8.8	219.
68	59.2	17200	36.0	.608	108.0	.0586	-80.7			431.5	7.0	208.
69	56.7	17443	32.8	.578	98.4	.0597	-80.7			436.9	3.7	170.
70	54.0	17718	35.2	.652	105.5	.0610	-80.4			443.7	6.5	215.
71	51.5	17985	36.8	.715	109.9	.0624	-80.1			450.5	2.1	128.
72	49.2	18243	40.4	.821	120.7	.0638	-79.8			457.1	2.7	102.
73	47.5	18442	38.9	.819	116.0	.0649	-79.5			462.5	1.9	133.
74	45.7	18661	28.9	.632	85.8	.0659	-78.9			469.0	4.8	63.
75	43.8	18902	28.9	.660	85.5	.0669	-78.3			476.2	2.1	163.
76	41.3	19237	33.9	.821	100.3	.0683	-78.1			485.0	4.3	136.
77	38.9	19579	38.5	.990	113.7	.0701	-77.8			494.1	6.4	202.
78	36.3	19975	43.7	1.204	128.5	.0723	-76.9			506.1	4.3	188.
79	34.8	20218	49.0	1.408	142.7	.0738	-75.1			517.1	9.3	77.
80	33.8	20387	53.6	1.586	156.1	.0750	-75.1			521.4	12.4	70.
81	33.0	20525	54.6	1.655	159.3	.0760	-75.3			524.3	11.0	66.
82	31.9	20721	58.2	1.824	169.6	.0776	-75.1			530.1	8.2	58.
83	30.5	20982	71.9	2.357	207.6	.0799	-73.3			541.8	5.3	54.
84	29.1	21257	79.2	2.722	227.7	.0827	-72.3			551.8	3.3	94.
85	28.0	21484	82.5	2.946	235.3	.0851	-70.7			562.4	5.4	121.
86	26.5	21811	82.2	3.102	233.1	.0887	-69.5			574.5	6.2	110.
87	25.4	22064	81.5	3.209	229.5	.0914	-68.8			585.9	5.4	90.
88	24.3	22330	82.6	3.399	231.7	.0943	-67.4			595.2	3.5	88.
89	23.2	22609	85.5	3.685	238.9	.0974	-66.5			605.6	5.4	98.
90	22.2	22875	83.5	3.761	233.0	.1003	-66.1			614.5	6.8	91.
91	21.2	23154	81.7	3.854	227.8	.1033	-65.9			623.2	7.9	70.
92	20.5	23358	77.3	3.771	213.6	.1054	-64.3			634.1	8.8	73.
93	19.7	23692	74.6	3.787	204.9	.1078	-63.0			645.5	11.1	69.
94	18.9	23857	71.5	3.783	195.6	.1102	-62.0			656.1	12.5	57.
95	18.0	24159	68.5	3.806	186.2	.1129	-60.6			669.9	11.8	51.
96	17.3	24407	67.6	3.908	181.7	.1150	-58.5			684.3	10.9	17.
97	16.8	24592	64.8	3.857	172.9	.1166	-56.8			695.6	7.3	360.
98	16.0	24902	61.9	3.869	164.0	.1190	-55.1			710.7	7.0	69.
99	15.3	25188	57.4	3.752	150.8	.1211	-53.5			725.2	13.9	74.
100	15.0	25315	53.3	3.553	139.3	.1220	-52.1			734.0	17.7	69.
101	14.5	25534	50.8	3.503	132.1	.1234	-51.1			744.2	15.3	64.
102	14.1	25716	51.9	3.681	134.2	.1245	-49.6			755.3	13.2	66.
103	13.5	26001	49.2	3.644	126.1	.1262	-48.0			770.4	10.8	76.
104	13.0	26250	50.7	3.900	129.1	.1277	-46.4			784.3	9.6	79.

STATION: SOUTH POLE LAUNCH DATE: 29 SEP 86 158 Z ECC SONDE: 4A2500

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.2	26672	49.4	4.049	125.2	.1302	-45.5			801.7	13.0	64.
106	11.8	26894	46.8	3.966	118.1	.1315	-44.5			812.9	14.4	59.
107	11.0	27365	46.9	4.264	117.7	.1341	-43.0			835.0	6.5	65.
108	10.3	27809	46.0	4.466	114.7	.1365	-41.6			856.0	6.9	62.
109	9.9	28078	44.3	4.475	109.8	.1379	-40.3			870.4	17.7	53.
110	9.6	28288	42.0	4.375	103.8	.1389	-39.2			882.2	17.5	45.
111	9.3	28505	41.7	4.484	102.6	.1400	-38.7			892.3	8.3	36.
112	9.0	28737	41.0	4.561	101.1	.1411	-38.8			900.5	2.4	36.
113	8.7	28978	39.2	4.516	95.9	.1422	-37.1			916.4	4.6	50.
114	8.4	29171	39.0	4.621	95.5	.1431	-37.6			921.6	12.7	50.
115	8.3	29286	39.5	4.759	97.2	.1436	-38.4			922.9	17.2	51.
116	8.2	29386	38.3	4.682	94.0	.1440	-38.1			927.8	17.2	51.

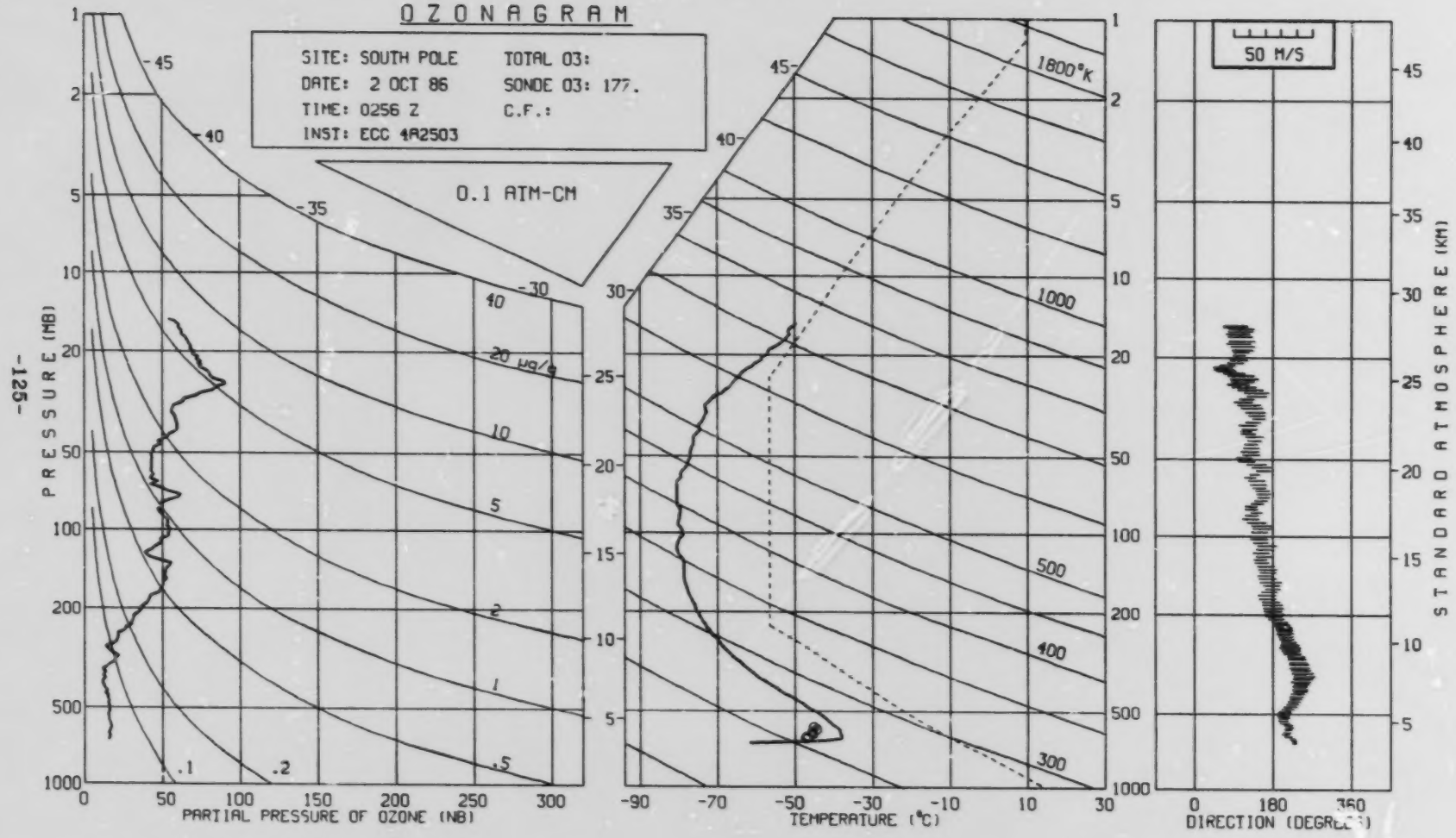
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.0	12.2	33.2	52.9	39.9	75.9	47.5	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110129098602           39        ECC    TOTAL O3 FROM SONDE DATA  174
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110229098602    661 14-53       500 16-44252 19 300 10-64237 29 200 23-77234 26
1110329098602    150 49-80227 15 100 50-81179  5  70 57-81178  8  50 39-80111  2
1110429098602     30 74-73 68  520.0 76-63 71 1010.0 45-41 55 15 645 14-42256  9
1110529098602    628 13-41256  9 241  8-73224 26  97 48-81122  3  90 64-81226  7
1110629098602     64 41-81252  9  62 45-81219  9  57 33-81170  4  44 29-78163  2
1110729098602     32 58-75 58  823.2 86-67 98  514.5 51-51 64 1613.0 51-46 79 10
1110829098602    8.7 39-37 50  5 8.2 38-38 51 17
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 2 OCT 86 256 Z ECC SONDE: 4A2503
SURFACE CONDITIONS: PRESSURE 668.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.6 ORD;
O3 ORD ZERO 32.4, BKGND 32.6, CAL 69.4; O3 BKGND .029 MICROAMP; FLOW RATE 28.5 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 177.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	668.9	2800	15.5	.023	42.5	.0000	-61.9			237.0		
1	653.0	2955	16.0	.025	40.2	.0003	-42.4			260.6	2.8	229.
2	639.0	3102	16.5	.026	40.7	.0006	-38.4	-47.5	38.4	266.8	2.8	229.
3	626.0	3243	15.5	.025	38.2	.0008	-38.3	-47.1	39.8	268.5	4.3	225.
4	613.0	3387	16.5	.027	40.7	.0011	-38.4	-45.7	46.8	270.0	4.9	215.
5	600.0	3534	16.7	.028	41.0	.0014	-38.7	-45.8	48.0	271.3	4.7	209.
6	588.0	3672	17.3	.029	42.6	.0017	-38.7	-44.7	54.0	272.9	4.4	212.
7	575.0	3825	16.6	.029	41.0	.0020	-39.5	-45.4	54.5	273.7	4.7	215.
8	563.0	3968	16.1	.029	40.1	.0022	-40.6			274.0	5.2	218.
9	552.0	4102	15.6	.028	38.9	.0025	-41.2			274.9	5.8	215.
10	541.0	4238	15.6	.029	39.1	.0027	-41.8			275.7	6.0	207.
11	530.0	4376	15.1	.028	37.9	.0030	-42.5			276.5	6.2	204.
12	519.0	4517	15.7	.030	39.3	.0032	-43.4			277.1	7.1	205.
13	508.0	4660	16.1	.032	40.7	.0035	-44.4			277.6	7.7	204.
14	497.0	4806	15.6	.031	39.6	.0038	-45.4			278.2	7.3	205.
15	488.0	4927	15.8	.032	40.3	.0040	-46.4			278.4	7.2	208.
16	478.0	5064	14.9	.031	38.2	.0042	-47.4			278.8	7.8	214.
17	468.0	5203	15.7	.034	40.4	.0045	-48.1			279.5	8.4	220.
18	458.0	5345	14.8	.032	38.1	.0048	-49.2			280.0	8.0	225.
19	448.0	5489	15.2	.034	39.5	.0050	-50.4			280.2	7.5	229.
20	438.0	5635	13.3	.030	34.5	.0053	-51.5			280.7	8.0	232.
21	428.0	5784	14.7	.034	38.6	.0055	-52.9			280.8	8.7	234.
22	417.0	5951	12.7	.030	33.5	.0058	-54.0			281.4	9.0	237.
23	408.0	6090	12.3	.030	32.4	.0060	-54.8			282.1	8.6	243.
24	400.0	6216	11.6	.029	30.8	.0062	-55.8			282.5	9.7	242.
25	391.0	6360	11.6	.030	31.0	.0064	-56.9			282.8	9.4	242.
26	382.0	6507	13.2	.035	35.3	.0066	-57.8			283.6	10.1	246.
27	373.0	6656	11.8	.032	31.8	.0069	-59.2			283.7	12.7	244.
28	363.0	6825	13.3	.037	36.1	.0072	-60.2			284.4	12.6	249.
29	354.0	6981	11.8	.033	32.0	.0074	-61.1			285.3	13.3	252.
30	346.0	7122	13.8	.040	37.7	.0076	-62.0			285.9	13.5	248.
31	337.0	7284	15.7	.047	43.2	.0079	-62.8			287.0	12.2	244.
32	329.0	7431	19.6	.060	54.1	.0083	-63.7			287.7	12.6	240.
33	320.0	7600	19.5	.061	54.1	.0087	-64.5			288.9	12.2	240.
34	314.0	7715	21.5	.068	59.7	.0090	-65.5			289.1	11.2	238.
35	305.0	7891	18.0	.059	50.4	.0095	-66.5			290.1	11.2	235.
36	298.0	8031	15.6	.052	43.7	.0098	-67.2			291.1	11.1	233.
37	290.0	8194	13.6	.047	38.2	.0101	-68.0			292.2	11.1	225.
38	283.0	8340	16.5	.058	46.6	.0104	-68.7			293.3	11.5	221.
39	276.0	8489	20.4	.074	57.7	.0107	-69.1			294.8	13.6	219.
40	268.0	8664	20.9	.078	59.3	.0112	-69.8			296.3	12.0	219.
41	261.0	8821	21.6	.083	61.4	.0117	-70.4			297.6	9.6	217.
42	254.0	8982	21.5	.085	61.5	.0121	-71.4			298.5	9.5	212.
43	247.0	9146	25.5	.103	73.1	.0126	-71.8			300.2	9.8	210.
44	240.0	9315	26.4	.110	75.8	.0132	-72.3			302.0	10.8	208.
45	233.0	9488	30.1	.129	86.8	.0139	-73.0			303.4	10.3	207.
46	227.0	9640	30.1	.133	86.8	.0145	-73.3			305.3	10.6	205.
47	221.0	9796	31.3	.142	90.9	.0152	-74.0			306.5	9.8	200.
48	215.0	9956	31.4	.146	91.0	.0158	-74.3			308.5	9.7	196.
49	209.0	10120	34.1	.163	99.2	.0166	-74.8			310.2	9.9	183.

STATION: SOUTH POLE LAUNCH DATE: 2 OCT 86 256 Z ECC SONDE: 4A2503

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	203.0	10289	36.3	.179	105.7	.0174	-75.1			312.4	10.3	183.
51	198.4	10421	36.2	.182	106.0	.0180	-75.9			313.2	11.1	183.
52	193.3	10571	38.5	.199	112.7	.0188	-75.9			315.6	11.5	180.
53	188.0	10731	40.7	.216	119.4	.0197	-76.1			317.6	12.7	181.
54	182.8	10892	41.6	.228	122.3	.0206	-76.7			319.3	12.8	179.
55	177.7	11054	42.4	.239	124.7	.0215	-76.9			321.5	11.6	176.
56	172.6	11221	48.1	.279	141.9	.0226	-77.5			323.2	10.8	168.
57	167.6	11389	48.9	.292	144.6	.0237	-77.8			325.5	11.3	166.
58	162.7	11558	50.4	.310	149.2	.0248	-78.1			327.8	10.5	172.
59	158.1	11721	50.4	.319	149.3	.0260	-78.3			330.0	9.3	180.
60	153.5	11889	52.8	.344	156.7	.0272	-78.6			332.3	10.5	177.
61	149.1	12054	51.5	.345	153.1	.0284	-78.9			334.6	13.7	175.
62	144.8	12220	51.9	.358	154.2	.0296	-78.9			337.4	11.3	168.
63	140.8	12379	52.2	.371	155.0	.0307	-78.9			340.1	8.8	160.
64	136.9	12538	54.3	.397	161.3	.0319	-78.9			342.8	10.5	169.
65	133.1	12698	55.4	.416	164.6	.0331	-78.9			345.6	11.7	168.
66	129.4	12858	47.3	.366	140.5	.0343	-78.9			348.4	11.1	164.
67	125.8	13018	41.1	.327	122.2	.0353	-79.2			350.7	9.2	154.
68	122.2	13182	38.8	.318	116.0	.0362	-79.8			352.5	8.5	151.
69	118.6	13351	43.2	.364	129.3	.0371	-80.4			354.4	10.3	161.
70	115.2	13515	45.3	.393	135.9	.0382	-80.7			356.8	10.3	153.
71	111.8	13683	49.5	.443	148.5	.0393	-80.7			359.9	11.1	162.
72	108.5	13851	49.1	.453	146.9	.0404	-80.4			363.5	12.2	167.
73	105.4	14014	54.0	.512	161.4	.0416	-80.1			367.1	9.9	152.
74	102.3	14183	53.9	.527	160.5	.0429	-79.2			372.0	10.8	149.
75	99.8	14323	54.7	.548	162.9	.0439	-79.2			374.7	11.6	151.
76	96.8	14496	52.9	.546	157.7	.0452	-79.5			377.4	10.0	150.
77	93.9	14668	53.7	.572	160.9	.0465	-80.4			378.9	11.3	155.
78	91.2	14832	53.0	.581	158.9	.0478	-80.4			382.0	13.6	155.
79	88.5	15001	50.4	.569	150.7	.0490	-80.1			385.9	12.2	143.
80	85.9	15169	48.3	.562	144.4	.0501	-80.1			389.2	10.3	129.
81	83.5	15329	47.4	.568	141.6	.0512	-79.8			393.0	8.1	132.
82	81.2	15487	49.9	.615	149.0	.0523	-79.8			396.2	7.4	143.
83	78.9	15649	49.5	.627	148.2	.0534	-80.4			398.2	7.9	131.
84	76.7	15808	54.3	.708	162.9	.0546	-80.7			400.8	7.3	131.
85	74.6	15964	60.4	.810	181.1	.0558	-80.7			404.0	7.7	146.
86	72.5	16124	61.6	.850	184.8	.0572	-80.7			407.3	8.3	153.
87	70.4	16289	53.4	.759	160.2	.0585	-80.7			410.7	7.6	159.
88	68.4	16451	49.3	.721	147.8	.0597	-80.7			414.1	8.8	159.
89	66.4	16618	42.5	.640	127.6	.0608	-80.7			417.6	9.2	157.
90	64.4	16790	47.0	.730	141.2	.0619	-80.7			421.3	8.8	149.
91	62.5	16958	42.4	.678	127.3	.0629	-80.7			424.9	10.8	147.
92	60.5	17141	44.4	.734	132.4	.0640	-79.5			431.6	10.4	143.
93	58.6	17321	42.7	.729	127.6	.0651	-79.8			434.9	7.0	128.
94	57.0	17478	43.1	.756	128.4	.0661	-79.2			439.7	6.0	139.
95	55.4	17640	43.1	.778	127.8	.0670	-78.3			445.3	9.5	158.
96	53.8	17807	43.1	.801	127.3	.0680	-77.8			450.3	12.0	154.
97	52.4	17957	43.5	.830	128.6	.0689	-77.8			453.7	12.4	144.
98	50.9	18123	42.7	.839	125.7	.0699	-77.2			458.8	10.2	120.
99	49.5	18283	43.9	.887	129.4	.0709	-77.2			462.5	9.3	115.
100	48.0	18459	44.3	.923	130.6	.0719	-77.2			466.6	10.7	131.
101	46.7	18616	48.4	1.036	142.4	.0729	-76.9			470.9	11.3	128.
102	45.3	18791	47.5	1.049	139.3	.0741	-76.4			476.4	10.2	131.
103	43.7	18998	53.2	1.217	156.0	.0755	-76.4			481.3	8.2	130.
104	42.4	19172	54.4	1.283	159.6	.0768	-76.4			485.5	9.2	137.

STATION: SOUTH POLE LAUNCH DATE: 2 OCT 86 256 Z ECC SONDE: 4A2503

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	41.1	19351	59.2	1.440	173.1	.0782	-75.6			491.8	11.4	138.
106	40.0	19508	59.9	1.498	174.4	.0795	-74.8			497.6	9.2	124.
107	39.1	19640	59.9	1.532	174.3	.0805	-74.8			500.8	6.9	119.
108	38.2	19775	59.1	1.547	172.1	.0816	-75.1			503.5	9.3	127.
109	37.0	19960	58.7	1.586	170.3	.0831	-74.3			510.1	11.4	123.
110	36.0	20119	57.8	1.606	167.5	.0844	-73.8			515.4	9.3	135.
111	35.0	20283	55.9	1.597	161.5	.0856	-73.5			520.2	7.9	148.
112	34.0	20452	56.1	1.650	161.9	.0869	-73.0			525.9	10.0	143.
113	33.0	20626	57.3	1.736	165.6	.0883	-73.3			529.7	12.3	140.
114	32.0	20806	62.8	1.963	181.6	.0897	-73.5			533.7	13.6	132.
115	31.1	20973	64.3	2.068	185.0	.0912	-72.3			541.4	14.7	125.
116	30.3	21126	71.4	2.356	204.7	.0925	-71.8			546.7	11.9	112.
117	29.5	21284	74.8	2.536	213.6	.0941	-70.9			553.5	9.4	120.
118	28.7	21447	82.5	2.875	233.4	.0958	-69.1			562.8	12.6	144.
119	27.8	21637	84.8	3.050	238.6	.0979	-68.0			571.0	15.4	143.
120	27.1	21790	90.4	3.336	253.2	.0997	-67.0			578.1	16.0	129.
121	26.4	21948	89.9	3.405	251.2	.1015	-66.5			583.6	15.7	114.
122	25.7	22110	82.5	3.210	229.8	.1034	-65.9			589.9	13.7	101.
123	25.0	22277	80.8	3.232	224.4	.1051	-65.3			596.3	14.5	111.
124	24.3	22450	80.2	3.300	222.0	.1069	-64.5			603.4	17.6	115.
125	23.6	22628	77.6	3.288	214.0	.1088	-63.9			610.2	16.7	107.
126	23.1	22759	74.1	3.208	203.7	.1100	-63.2			616.2	13.7	91.
127	22.6	22893	74.9	3.314	205.2	.1113	-62.4			622.3	12.0	73.
128	22.3	22975	72.9	3.269	198.8	.1121	-61.3			628.0	12.1	67.
129	21.8	23115	74.5	3.417	202.5	.1134	-60.8			633.7	11.8	64.
130	21.4	23230	71.7	3.350	194.3	.1145	-60.0			639.2	9.4	76.
131	20.9	23378	72.9	3.488	196.4	.1158	-58.8			647.3	10.6	94.
132	20.4	23530	69.1	3.387	186.2	.1172	-58.8			651.8	11.3	102.
133	20.0	23654	69.9	3.495	187.3	.1183	-57.6			659.2	8.6	94.
134	19.5	23814	68.0	3.487	181.8	.1197	-57.1			665.5	7.8	102.
135	19.0	23978	68.5	3.605	182.7	.1211	-56.8			671.5	9.8	108.
136	18.6	24113	67.3	3.618	178.4	.1222	-55.4			679.8	13.6	111.
137	18.1	24287	66.2	3.657	174.4	.1236	-54.1			689.2	15.5	110.
138	17.6	24467	65.0	3.693	170.5	.1251	-53.0			698.2	15.4	101.
139	17.2	24615	62.3	3.622	162.9	.1262	-52.4			704.8	16.1	109.
140	16.6	24845	62.3	3.753	162.3	.1280	-51.5			715.0	15.5	105.
141	16.2	25003	60.4	3.728	157.5	.1292	-51.9			718.5	15.2	99.
142	15.8	25165	60.8	3.848	158.3	.1304	-51.5			725.2	15.6	106.
143	15.5	25289	58.8	3.794	152.8	.1313	-50.8			731.2	15.9	108.
144	15.3	25373	58.4	3.817	151.5	.1319	-50.4			735.4	15.3	94.
145	15.1	25458	54.4	3.603	140.7	.1324	-49.9			739.7	15.3	94.

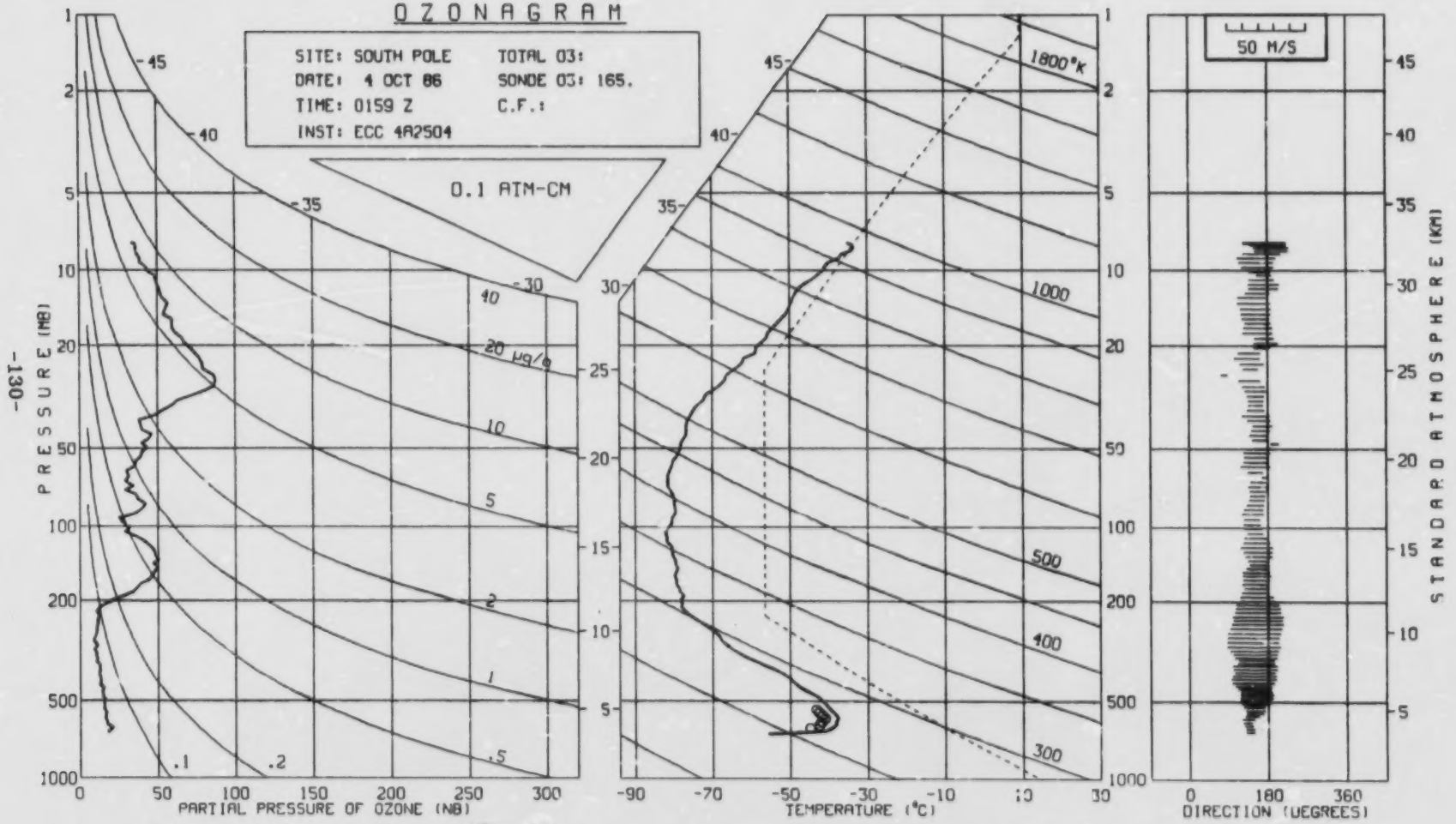
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
16.1	16.0	42.1	50.2	51.2	73.1	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110102108603           99        ECC    TOTAL O3 FROM SONDE DATA  177
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110202108603    669 16-62       500 16-45205  7 300 16-67234 11 200 36-76183 11
1110302108603    150 52-79175 13 100 55-79151 12  70 53-81159  8  50 43-77117 10
1110402108603     30 73-71115 1120.0 70-58 94  9 653 16-42229  3 639 17-38229  3
1110502108603    588 17-39212  4 373 12-59244 13 314 22-66238 11 133 55-79168 12
1110602108603    122 39-80151  9 115 45-81153 10  84 47-80132  8  73 62-81153  8
1110702108603     66 43-81157  9  41 59-76138 11  33 57-73140 1227.1 90-67129 16
1110802108603   15.1 54-50 94 15
```



-130-

BEST COPY AVAILABLE

130

STATION: SOUTH POLE LAUNCH DATE: 4 OCT 86 159 Z ECC SONDE: 4A2504
SURFACE CONDITIONS: PRESSURE 669.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.1 ORD;
O3 ORD ZERO 32.7, BKGND 33.0, CAL 70.5; O3 BKGND .042 MICROAMP; FLOW RATE 27.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 165.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
										243.7		
0	669.0	2830	18.2	.027	48.3	.0000	-55.9			262.1	4.9	139.
1	653.0	2959	18.2	.028	45.2	.0005	-41.1			265.9	4.9	139.
2	636.0	3138	21.0	.033	52.0	.0008	-39.5	-45.1	55.9	269.4	4.7	135.
3	618.0	3334	17.3	.028	42.5	.0012	-38.4	-42.7	65.2	271.4	5.6	133.
4	602.0	3514	16.9	.028	41.5	.0015	-38.4	-42.1	69.5	274.3	7.4	135.
5	585.0	3711	16.1	.028	39.4	.0019	-37.8	-41.3	71.4	276.0	9.3	144.
6	569.0	3901	16.5	.029	40.5	.0023	-38.3	-42.0	69.4	277.0	11.0	150.
7	554.0	4084	16.7	.030	41.1	.0026	-39.2	-42.9	69.6	278.3	12.3	151.
8	539.0	4271	15.2	.028	37.7	.0030	-39.9	-43.6	69.3	279.6	13.4	148.
9	524.0	4463	15.6	.030	38.7	.0033	-40.7			280.9	15.2	147.
10	509.0	4660	15.1	.030	37.6	.0037	-41.5			282.5	18.1	150.
11	495.0	4848	16.2	.033	40.5	.0040	-42.1			283.4	20.4	153.
12	482.0	5027	14.0	.029	35.1	.0043	-43.1			284.1	20.4	155.
13	468.0	5225	14.8	.032	37.4	.0047	-44.5			284.6	19.8	153.
14	455.0	5413	13.8	.030	35.2	.0050	-45.9			285.1	20.7	149.
15	442.0	5605	15.3	.035	39.1	.0053	-47.4			285.9	23.1	146.
16	430.0	5786	12.4	.029	31.9	.0056	-48.5			287.4	26.7	146.
17	417.0	5987	13.0	.031	33.5	.0059	-49.3			288.9	28.8	147.
18	403.0	6210	13.0	.032	33.7	.0063	-50.3			290.0	27.7	149.
19	390.0	6423	12.0	.031	31.3	.0066	-51.6			290.7	25.7	150.
20	378.0	6625	12.5	.033	32.8	.0069	-53.0			290.9	27.9	150.
21	367.0	6814	12.5	.034	33.0	.0072	-54.7			290.7	28.6	159.
22	356.0	7007	12.5	.035	33.3	.0075	-56.7			290.6	23.5	152.
23	347.0	7168	10.1	.029	27.0	.0077	-58.4			290.3	22.5	153.
24	338.0	7332	11.1	.033	30.1	.0079	-60.2			289.8	26.7	152.
25	331.0	7462	10.1	.031	27.7	.0081	-61.8			290.3	28.4	150.
26	321.0	7651	10.5	.033	28.9	.0084	-63.3			291.0	30.5	148.
27	310.0	7864	9.1	.029	25.1	.0086	-64.9			291.8	33.7	147.
28	300.0	8063	11.0	.037	30.8	.0089	-66.3			293.1	32.8	146.
29	288.0	8309	8.6	.030	24.3	.0092	-67.8			295.5	33.3	146.
30	277.0	8542	9.6	.035	27.0	.0095	-68.4			297.3	33.9	148.
31	266.0	8784	10.5	.039	29.9	.0098	-69.5			298.2	33.0	152.
32	255.0	9034	10.5	.041	30.1	.0102	-71.3			299.5	32.7	155.
33	245.0	9269	11.4	.047	33.0	.0105	-72.8			300.1	31.0	157.
34	236.0	9487	11.4	.048	33.2	.0108	-74.5			300.7	32.5	157.
35	228.0	9686	12.0	.053	35.0	.0112	-76.1			302.0	28.8	157.
36	220.0	9891	10.5	.048	31.0	.0115	-77.2			303.5	28.5	157.
37	212.0	10103	12.7	.060	37.8	.0118	-78.3			306.9	27.5	156.
38	205.0	10294	16.9	.082	49.9	.0122	-78.0			308.6	21.6	156.
39	199.0	10463	21.4	.108	63.5	.0127	-78.6			313.3	21.0	154.
40	191.7	10676	28.5	.149	84.1	.0134	-77.7			315.3	17.0	150.
41	184.6	10891	34.1	.185	101.3	.0143	-78.6			318.3	14.3	150.
42	177.6	11111	36.7	.207	109.0	.0154	-78.9			320.9	16.9	151.
43	170.8	11332	38.9	.228	116.0	.0166	-79.5			324.5	16.7	153.
44	164.2	11555	44.3	.270	132.1	.0179	-79.5			327.1	17.9	154.
45	157.9	11776	46.4	.294	138.7	.0193	-80.1			331.8	17.3	153.
46	151.9	11995	47.9	.315	142.8	.0207	-79.5			336.1	14.1	155.
47	146.0	12219	49.8	.341	148.3	.0222	-79.2			338.7	11.2	159.
48	140.6	12432	46.9	.334	140.0	.0237	-79.8			342.4	12.5	158.
49	135.4	12645	50.5	.373	150.7	.0251	-79.8					

STATION: SOUTH POLE LAUNCH DATE: 4 OCT 86 159 Z ECC SONDE: 4A2504

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	130.2	12866	48.4	.372	144.9	.0266	-80.4			345.1	17.2	158.
51	125.0	13095	47.9	.383	143.8	.0282	-80.7			348.6	17.7	157.
52	119.8	13334	45.6	.381	136.8	.0298	-80.7			352.9	20.6	154.
53	114.7	13578	41.9	.365	126.4	.0313	-82.0			354.9	16.4	154.
54	110.0	13812	37.2	.338	112.4	.0326	-82.0			359.2	14.7	152.
55	105.3	14056	29.1	.276	87.9	.0337	-82.3			363.1	10.4	151.
56	100.9	14294	31.7	.314	95.7	.0347	-81.7			368.8	10.7	146.
57	97.4	14492	27.4	.281	82.3	.0356	-80.7			374.4	10.7	144.
58	93.1	14746	25.2	.271	75.7	.0365	-80.7			379.2	10.5	144.
59	89.0	15000	35.9	.403	107.1	.0376	-79.8			386.0	14.2	145.
60	85.3	15240	39.9	.468	119.2	.0388	-79.8			390.7	12.1	147.
61	81.8	15477	42.0	.513	125.5	.0402	-80.1			394.8	10.9	151.
62	78.4	15717	37.4	.477	111.8	.0415	-80.1			399.6	10.1	154.
63	75.5	15929	36.0	.477	107.9	.0426	-80.4			403.3	9.7	157.
64	72.7	16142	29.3	.403	88.1	.0436	-81.0			406.3	10.6	158.
65	69.8	16370	33.9	.486	102.1	.0446	-81.7			409.7	12.3	157.
66	67.1	16591	29.2	.435	88.1	.0456	-81.7			414.4	11.0	160.
67	64.4	16821	31.3	.486	94.4	.0466	-81.7			419.3	3.2	171.
68	61.6	17070	30.0	.487	90.2	.0476	-81.3			425.3	9.7	151.
69	58.9	17322	35.4	.601	106.1	.0488	-80.7			432.2	18.6	151.
70	56.3	17575	35.8	.636	107.1	.0501	-80.4			438.5	14.8	151.
71	54.0	17812	39.2	.726	116.8	.0513	-79.5			445.9	13.9	151.
72	51.8	18048	39.9	.770	118.5	.0526	-78.9			452.6	16.8	155.
73	49.7	18283	43.2	.869	127.9	.0540	-78.3			459.4	11.0	170.
74	47.7	18517	39.9	.836	118.2	.0553	-78.3			464.8	5.0	196.
75	45.9	18736	43.9	.956	129.8	.0566	-77.7			471.3	10.0	162.
76	44.0	18978	46.3	1.052	136.4	.0581	-76.9			479.1	11.1	158.
77	42.1	19231	40.3	.957	118.6	.0596	-76.9			485.1	12.1	163.
78	40.2	19496	39.0	.970	114.6	.0610	-76.9			491.6	12.6	168.
79	38.4	19759	38.5	1.003	113.2	.0624	-76.4			498.8	14.9	159.
80	36.7	20020	49.3	1.343	144.3	.0640	-75.8			507.3	17.5	152.
81	35.1	20278	54.5	1.553	158.7	.0658	-75.0			515.9	11.0	152.
82	33.6	20532	59.7	1.777	173.2	.0678	-74.0			525.1	9.8	152.
83	32.3	20763	62.9	1.947	180.9	.0697	-72.5			535.0	9.8	152.
84	30.9	21023	72.8	2.356	208.9	.0721	-72.0			543.1	10.6	152.
85	29.6	21277	80.8	2.730	229.5	.0747	-70.0			555.5	13.1	152.
86	28.4	21524	86.3	3.039	243.4	.0774	-68.4			566.4	14.9	147.
87	27.0	21828	87.3	3.233	244.7	.0809	-67.1			578.2	13.9	138.
88	25.7	22126	86.2	3.354	240.9	.0843	-66.5			588.2	4.1	80.
89	24.4	22441	79.1	3.242	218.8	.0876	-64.3			603.4	10.1	140.
90	23.3	22724	78.9	3.386	216.2	.0905	-62.6			616.4	15.4	144.
91	22.2	23022	77.1	3.473	210.7	.0935	-62.0			626.7	16.2	132.
92	21.2	23308	73.9	3.486	199.4	.0962	-59.1			643.7	14.5	138.
93	20.3	23580	71.1	3.502	191.6	.0987	-58.9			652.2	10.0	167.
94	19.5	23832	67.4	3.456	180.6	.1009	-57.7			663.5	15.0	176.
95	18.6	24131	66.0	3.548	175.8	.1034	-56.2			677.3	12.1	172.
96	17.8	24410	61.9	3.478	164.4	.1056	-55.9			686.9	18.7	156.
97	16.9	24741	59.5	3.521	157.2	.1081	-54.6			701.3	18.4	158.
98	16.2	25012	59.4	3.667	156.2	.1101	-53.5			713.5	16.6	157.
99	15.5	25296	59.5	3.839	155.5	.1122	-52.4			726.2	17.4	152.
100	14.8	25595	53.7	3.628	139.7	.1142	-51.3			739.5	18.5	152.
101	14.1	25910	55.3	3.922	143.5	.1163	-50.5			752.4	19.5	152.
102	13.4	26242	56.7	4.231	146.7	.1186	-49.9			765.5	20.8	148.
103	12.7	26593	53.2	4.189	137.4	.1209	-49.4			778.9	18.3	145.
104	12.2	26856	51.9	4.254	133.5	.1226	-48.8			790.0	15.5	157.

STATION: SOUTH POLE LAUNCH DATE: 4 OCT 86 159 Z ECC SONDE: 4A2504

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	11.7	27131	51.5	4.402	132.2	.1243	-48.1			802.1	18.7	171.
106	11.3	27361	50.1	4.434	127.7	.1257	-46.5			815.9	19.6	171.
107	10.8	27662	49.0	4.537	123.7	.1274	-44.5			833.9	16.3	166.
108	10.4	27915	48.6	4.673	122.0	.1289	-43.1			848.1	9.2	172.
109	10.1	28112	43.9	4.347	109.7	.1299	-41.8			859.9	13.5	163.
110	9.7	28400	42.8	4.421	106.6	.1314	-41.1			873.0	20.0	157.
111	9.3	28687	38.8	4 181	96.0	.1328	-40.2			887.3	22.6	154.
112	8.9	28950	38.9	4.356	95.2	.1339	-37.4			907.5	24.6	154.
113	8.6	29186	37.3	4.322	91.2	.1350	-36.8			919.1	24.0	167.
114	8.4	29407	36.1	4.318	87.3	.1359	-34.2			937.4	21.4	189.
115	8.2	29576	36.2	4.436	87.2	.1366	-33.7			946.0	22.3	188.
116	8.0	29714	36.2	4.525	87.4	.1371	-34.6			950.3	22.4	181.
117	7.9	29819	35.5	4.505	86.0	.1376	-34.9			950.7	26.9	173.
118	7.8	29881	33.8	4.328	82.0	.1378	-35.3			951.6	26.9	173.

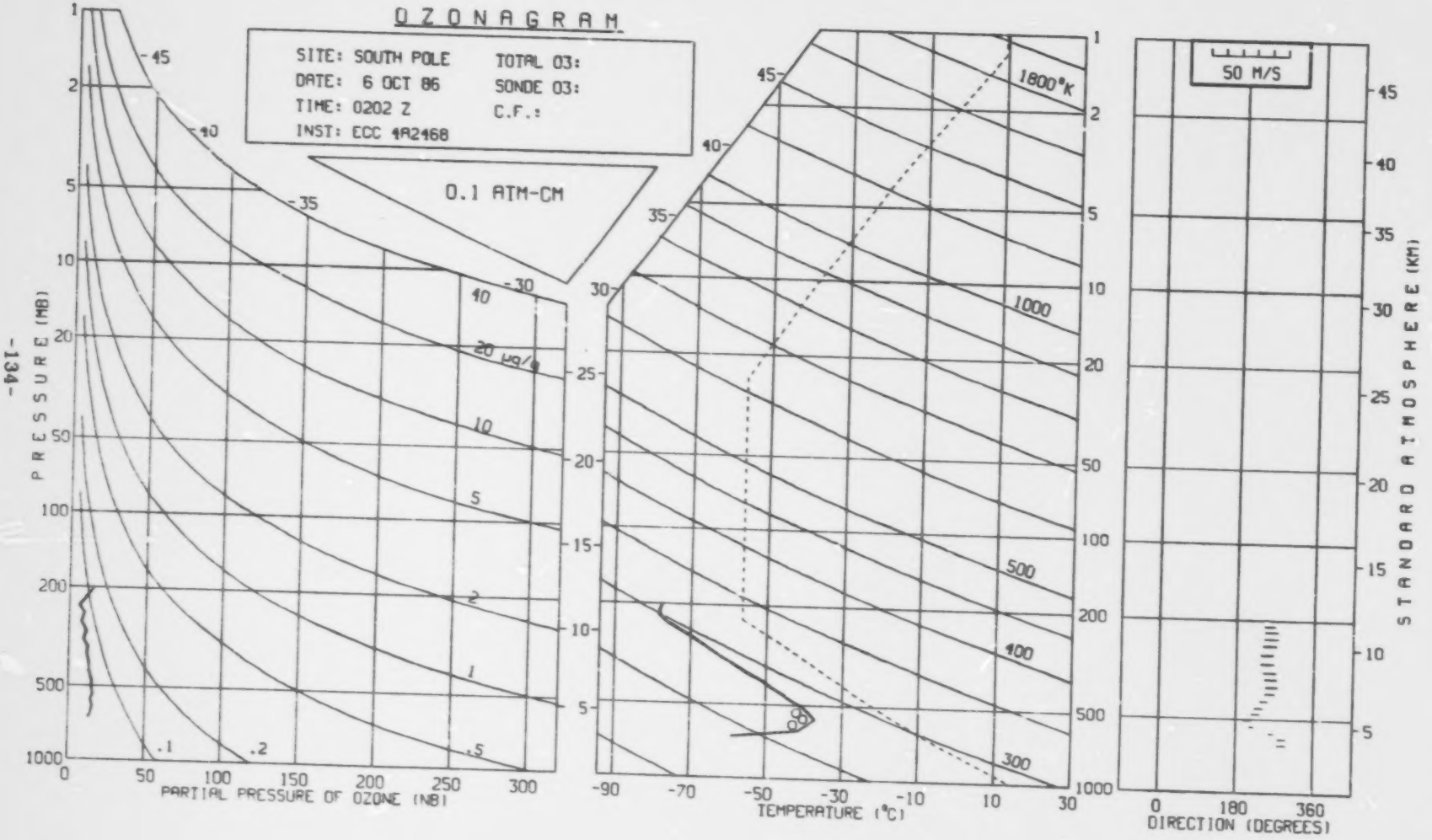
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
16.9	11.8	32.7	34.9	44.3	73.7	49.3	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
1110104108602	99	ECC	TOTAL O3 FROM SONDE DATA 165		
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
1110204108602	669 18-56	500 16-42149	17 300 11-66147	34 200 21-78156	23
1110304108602	150 49-79154	16 100 31-81145	11 70 34-82157	12 50 43-78168	12
1110404108602	30 78-71152	1220.0 70-58170	1210.0 44-42162	15 653 18-41139	5
1110504108602	636 21-40139	5 585 16-38135	7 378 13-53150	26 220 11-77157	29
1110604108602	125 48-81157	18 93 25-81144	11 85 40-80147	12 62 30-81151	10
1110704108602	38 39-77159	1527.0 87-67138	1411.7 52-48171	19 9.3 39-40154	23
1110804108602	8.4 36-34189	21 7.8 34-35173	27		



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 6 OCT 86 202 Z ECC SONDE: 4A2468
SURFACE CONDITIONS: PRESSURE 666.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.2 ORD;
O3 ORD ZERO 32.8, BKGND 33.0, CAL 70.5; O3 BKGND .028 MICROAMP; FLOW RATE 27.9 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	666.5	2800	13.1	.020	35.2	.0000	-59.3			240.1		
1	629.0	3177	14.9	.024	37.3	.0006	-41.7			264.3	5.3	287.
2	596.0	3544	15.8	.027	39.1	.0013	-39.3	-43.1	68.5	271.1	5.3	287.
3	565.0	3911	14.5	.026	35.5	.0019	-37.4	-40.4	75.4	277.5	3.5	263.
4	535.0	4286	15.9	.030	39.2	.0026	-38.9	-42.1	73.6	280.1	2.9	216.
5	505.0	4680	14.9	.030	37.2	.0033	-41.1			282.1	4.5	207.
6	477.0	5065	15.5	.032	39.1	.0040	-43.8			283.4	5.8	225.
7	450.0	5454	14.1	.031	35.9	.0047	-46.3			284.9	5.7	233.
8	424.0	5846	13.1	.031	33.9	.0053	-49.1			286.3	5.0	244.
9	397.0	6274	13.1	.033	34.2	.0060	-52.0			287.9	6.4	258.
10	373.0	6674	11.8	.032	31.3	.0066	-55.6			288.4	7.6	262.
11	349.0	7094	12.3	.035	33.0	.0072	-58.8			289.6	8.1	260.
12	327.0	7499	9.4	.029	25.7	.0078	-62.0			290.6	8.4	257.
13	303.0	7966	11.3	.037	31.4	.0084	-65.3			292.4	8.7	252.
14	278.0	8485	8.0	.029	22.6	.0091	-69.1			294.2	8.6	252.
15	255.0	8996	9.9	.039	28.6	.0097	-73.0			295.7	8.8	257.
16	238.0	9397	6.5	.027	19.1	.0101	-76.4			296.6	9.4	261.
17	223.0	9770	10.3	.046	30.6	.0105	-78.3			299.1	8.4	261.
18	211.0	10085	13.2	.063	39.0	.0111	-78.3			303.9	6.7	257.
19	200.0	10390	15.9	.080	47.1	.0117	-77.7			309.5	6.7	257.

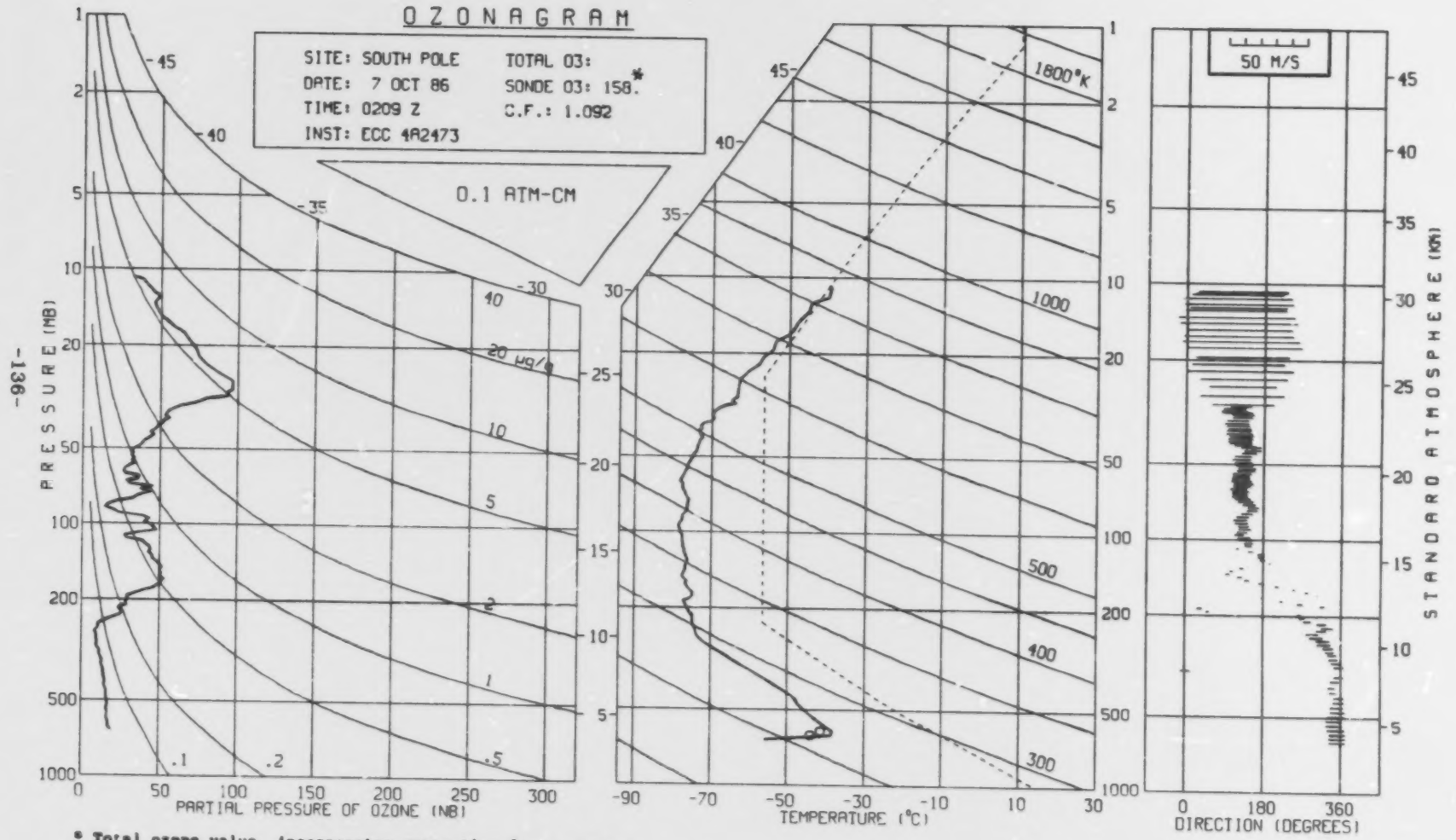
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
15.0	11.7	999.9	999.9	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110106108602           99        ECC    TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110206108602    667 13-59       500 15-42210  5 300 11-66252  9 629 15-42287  5
1110306108602    565 15-37263  4 238  7-76261  9 200 16-78257  7
```



* Total ozone value, incorporates correction factor (C.F.).

BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 7 OCT 86 209 Z ECC SONDE: 4A2473
SURFACE CONDITIONS: PRESSURE 667.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 74.0 ORD;
O3 ORD ZERO 32.5, BKGND 32.8, CAL 69.9; O3 BKGND .042 MICROAMP; FLOW RATE 28.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 158.; C.F. 1.092

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	667.0	2800	19.1	.029	50.9	.0000	-55.9			243.9		
1	640.0	3073	17.5	.027	43.0	.0006	-38.8	-44.1	58.3	266.2	10.3	353.
2	614.0	3357	17.4	.028	42.7	.0012	-38.5	-41.5	75.2	269.7	10.3	353.
3	588.0	3653	16.4	.028	40.5	.0017	-40.2			271.2	10.2	353.
4	564.0	3936	16.8	.030	42.0	.0023	-41.7			272.6	10.8	349.
5	539.0	4242	16.3	.030	41.1	.0029	-43.4			274.2	10.5	344.
6	516.0	4534	16.9	.033	42.7	.0035	-44.8			275.9	9.9	345.
7	495.0	4811	16.4	.033	41.6	.0040	-46.2			277.5	10.1	350.
8	474.0	5098	15.9	.034	40.7	.0046	-47.4			279.5	9.5	353.
9	453.0	5397	15.9	.035	40.7	.0051	-48.1			282.2	7.8	351.
10	435.0	5663	14.7	.034	38.1	.0056	-49.4			283.8	7.0	355.
11	416.0	5954	15.3	.037	40.0	.0061	-51.6			284.7	6.4	355.
12	397.0	6255	14.2	.036	37.5	.0067	-53.9			285.4	4.3	342.
13	379.0	6551	14.2	.037	37.8	.0072	-55.9			286.7	4.6	319.
14	361.0	6858	12.8	.035	34.3	.0077	-58.4			287.3	5.6	346.
15	345.0	7141	13.3	.039	36.1	.0082	-60.7			287.9	5.7	355.
16	329.0	7434	11.6	.035	31.9	.0087	-63.0			288.8	6.4	0.
17	316.0	7681	11.6	.037	32.2	.0090	-64.9			289.4	6.3	357.
18	304.0	7916	9.4	.031	26.3	.0093	-66.7			290.1	5.4	348.
19	294.0	8117	9.9	.034	28.1	.0096	-68.4			290.5	5.3	343.
20	284.0	8323	9.4	.033	26.8	.0099	-70.0			291.1	5.3	340.
21	275.0	8513	9.6	.035	27.4	.0101	-71.6			291.5	5.4	335.
22	266.0	8708	8.4	.032	24.4	.0103	-72.8			292.5	6.2	331.
23	258.0	8886	10.6	.041	30.8	.0106	-73.8			293.7	8.1	321.
24	250.0	9069	10.6	.042	30.7	.0108	-74.0			295.9	8.5	319.
25	243.0	9234	14.4	.059	41.7	.0111	-74.3			298.0	8.0	303.
26	236.0	9404	19.8	.084	57.4	.0115	-74.8			299.7	7.5	294.
27	229.0	9578	25.1	.110	73.2	.0120	-75.0			301.9	6.2	315.
28	222.0	9758	25.7	.116	74.7	.0127	-75.0			304.6	7.1	329.
29	215.0	9943	23.5	.109	68.5	.0133	-75.0			307.4	5.7	315.
30	210.0	10079	28.7	.137	84.1	.0138	-75.6			308.6	4.2	283.
31	204.0	10246	28.2	.138	82.4	.0144	-76.1			310.4	3.0	270.
32	198.5	10403	29.7	.150	87.3	.0150	-76.4			312.4	1.7	263.
33	193.1	10561	29.2	.151	85.8	.0157	-76.9			314.0	1.9	52.
34	187.8	10720	34.0	.181	99.9	.0164	-77.2			316.0	3.3	33.
35	182.7	10878	39.5	.216	115.5	.0172	-75.6			321.2	3.2	317.
36	178.4	11016	46.1	.258	134.3	.0180	-75.0			324.2	3.0	266.
37	173.5	11177	49.0	.283	142.9	.0190	-75.0			326.8	1.6	222.
38	168.5	11346	51.1	.303	149.4	.0202	-75.8			328.2	.3	177.
39	163.7	11512	52.9	.323	155.1	.0214	-76.4			330.0	.8	304.
40	159.4	11665	49.9	.313	146.8	.0224	-76.9			331.6	2.2	281.
41	155.1	11822	51.2	.330	150.4	.0235	-76.6			334.7	1.8	251.
42	151.0	11975	50.2	.333	148.1	.0246	-77.5			335.9	2.3	212.
43	147.2	12120	51.5	.350	152.2	.0256	-77.7			337.8	2.1	174.
44	143.5	12265	50.0	.349	147.4	.0267	-77.2			341.3	2.9	142.
45	139.8	12415	47.9	.343	141.1	.0277	-76.9			344.3	2.8	126.
46	136.3	12560	45.3	.332	133.3	.0286	-76.9			346.8	2.3	98.
47	132.7	12713	45.4	.342	133.4	.0296	-76.6			350.0	2.4	107.
48	129.3	12862	42.9	.332	125.9	.0305	-76.4			353.1	2.2	130.
49	126.0	13010	44.4	.353	130.4	.0313	-76.6			355.2	.7	144.

STATION: SOUTH POLE LAUNCH DATE: 7 OCT 86 209 Z ECC SONDE: 4A2473

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	122.7	13162	43.5	.354	128.0	.0323	-76.9			357.4	.9	194.
51	119.8	13299	40.5	.338	119.4	.0331	-77.2			359.3	2.9	178.
52	116.9	13439	39.3	.336	115.8	.0338	-77.2			361.9	2.0	172.
53	114.1	13578	28.5	.250	84.2	.0345	-77.5			363.9	2.9	173.
54	111.3	13720	27.4	.246	80.8	.0350	-77.5			366.4	3.5	151.
55	108.5	13865	36.0	.332	106.4	.0357	-77.7			368.6	1.9	121.
56	105.8	14009	47.7	.451	141.1	.0365	-77.7			371.3	4.5	145.
57	103.2	14151	46.3	.449	136.8	.0374	-77.7			373.9	5.3	146.
58	100.5	14302	43.8	.436	129.8	.0384	-78.3			375.6	5.5	144.
59	98.3	14428	40.3	.410	119.5	.0391	-78.3			378.0	7.5	136.
60	95.8	14574	43.2	.451	128.5	.0399	-78.6			380.3	5.4	124.
61	93.5	14712	39.3	.420	116.6	.0407	-78.6			382.9	6.1	131.
62	91.0	14866	23.6	.259	69.8	.0414	-78.0			387.0	7.6	137.
63	88.7	15012	20.0	.225	59.0	.0419	-77.7			390.4	6.4	134.
64	86.4	15162	14.7	.171	43.5	.0422	-77.7			393.4	8.2	128.
65	84.3	15303	16.4	.194	48.3	.0425	-76.9			397.8	8.6	126.
66	82.2	15448	21.6	.263	63.4	.0429	-76.6			401.3	7.5	132.
67	80.0	15604	32.9	.411	96.4	.0435	-76.4			405.0	7.0	142.
68	77.9	15757	35.8	.460	105.3	.0442	-76.4			408.1	6.4	154.
69	75.7	15922	43.4	.573	127.0	.0451	-76.1			412.0	6.6	156.
70	73.7	16076	37.9	.514	111.2	.0459	-76.6			414.0	7.9	146.
71	71.8	16226	44.3	.617	130.3	.0468	-76.9			416.5	9.6	139.
72	70.0	16371	30.4	.434	89.4	.0475	-77.2			419.0	9.9	131.
73	68.3	16511	28.7	.420	85.0	.0481	-77.7			420.7	9.5	124.
74	66.6	16655	35.9	.539	106.3	.0488	-77.7			423.7	9.4	125.
75	64.9	16802	36.5	.562	107.7	.0495	-77.7			426.9	10.1	127.
76	63.3	16944	27.7	.438	82.1	.0501	-78.3			428.7	9.8	122.
77	61.7	17090	26.6	.432	78.8	.0507	-78.0			432.5	10.0	130.
78	60.2	17230	27.4	.455	80.7	.0512	-77.5			436.8	12.2	134.
79	58.7	17374	30.4	.517	89.5	.0518	-77.2			440.6	12.5	128.
80	57.3	17512	33.3	.581	97.8	.0524	-76.9			444.2	11.0	127.
81	56.0	17644	32.0	.571	93.7	.0530	-76.4			448.4	10.5	128.
82	54.6	17789	33.3	.610	97.6	.0536	-76.4			451.7	11.5	130.
83	53.3	17927	31.2	.586	91.5	.0542	-76.1			455.4	11.8	138.
84	52.0	18069	32.8	.630	95.7	.0549	-75.6			459.9	11.0	141.
85	50.6	18227	31.4	.622	91.7	.0556	-75.3			464.1	10.7	135.
86	49.2	18389	35.9	.730	104.6	.0563	-75.0			468.4	10.6	133.
87	47.8	18556	38.3	.802	111.3	.0572	-74.3			474.2	11.2	128.
88	46.6	18704	39.9	.855	115.5	.0579	-74.0			478.2	10.9	132.
89	45.4	18856	43.2	.952	125.0	.0588	-73.8			482.4	9.5	146.
90	44.4	18986	46.1	1.038	133.3	.0596	-73.5			486.1	10.5	154.
91	43.3	19132	43.8	1.011	126.3	.0605	-73.3			490.2	13.1	150.
92	42.4	19255	46.1	1.087	132.6	.0612	-72.5			495.0	14.0	135.
93	41.5	19380	47.9	1.155	138.4	.0620	-73.0			496.8	14.8	127.
94	40.7	19494	48.6	1.194	140.2	.0627	-73.3			499.0	15.1	124.
95	39.8	19624	51.8	1.301	149.8	.0636	-73.5			501.5	15.4	126.
96	39.0	19742	52.3	1.341	150.7	.0645	-72.8			506.3	15.9	128.
97	38.2	19863	55.7	1.458	160.5	.0653	-73.0			508.7	16.7	122.
98	37.4	19987	53.2	1.422	153.0	.0663	-72.5			513.0	15.7	122.
99	36.6	20114	54.3	1.483	154.5	.0672	-70.4			521.7	14.4	122.
100	35.7	20262	55.7	1.560	158.1	.0683	-69.7			527.1	15.3	119.
101	34.9	20396	59.0	1.690	167.7	.0693	-70.0			530.0	15.4	116.
102	34.1	20534	62.5	1.832	177.3	.0704	-69.7			534.1	13.6	119.
103	33.2	20693	71.9	2.164	203.2	.0718	-69.1			539.9	12.3	130.
104	32.4	20839	77.6	2.396	218.8	.0732	-68.2			546.0	14.1	131.

STATION: SOUTH POLE LAUNCH DATE: 7 OCT 86 209 Z ECC SONDE: 4A2473

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	31.9	20932	79.9	2.506	224.0	.0742	-67.1			551.3	17.3	121.
106	31.6	20989	87.6	2.771	244.3	.0748	-66.1			555.6	17.0	113.
107	31.3	21047	93.4	2.983	258.1	.0755	-64.3			561.9	15.9	110.
108	30.7	21165	93.4	3.041	259.0	.0769	-65.1			562.9	13.9	111.
109	30.2	21265	93.4	3.092	258.9	.0782	-64.9			566.1	12.8	127.
110	29.6	21387	96.5	3.261	266.0	.0797	-63.7			572.6	40.2	130.
111	27.4	21860	96.6	3.527	266.2	.0855	-63.5			585.9	53.7	127.
112	25.3	22350	86.2	3.405	236.5	.0913	-63.0			601.0	42.9	129.
113	23.7	22753	79.4	3.350	216.2	.0956	-61.1			617.8	56.5	130.
114	22.1	23190	74.7	3.380	200.5	.0998	-58.1			639.2	67.9	124.
115	20.7	23603	72.9	3.524	194.8	.1036	-57.1			654.3	59.4	118.
116	19.4	24015	69.3	3.574	183.0	.1073	-54.6			674.2	59.9	128.
117	17.8	24567	65.0	3.650	171.0	.1118	-53.8			693.6	73.5	133.
118	16.8	24941	58.9	3.504	152.9	.1147	-50.8			714.7	75.4	124.
119	16.0	25259	54.7	3.419	141.2	.1168	-49.3			729.6	70.0	119.
120	15.1	25639	49.6	3.283	127.4	.1192	-48.4			744.8	67.7	120.
121	14.2	26044	47.2	3.322	120.4	.1216	-46.9			762.9	74.8	113.
122	13.5	26380	45.9	3.397	116.3	.1234	-45.3			779.4	74.7	113.
123	12.7	26788	49.6	3.904	125.1	.1257	-44.8			795.2	65.0	112.
124	12.4	26948	46.1	3.716	116.1	.1266	-43.8			804.1	61.9	117.
125	12.0	27169	44.1	3.676	109.5	.1278	-40.3			824.0	69.5	119.
126	11.4	27519	40.7	3.573	100.8	.1295	-39.9			837.6	70.3	115.
127	11.0	27763	38.3	3.484	94.7	.1306	-39.6			847.2	58.4	114.
128	10.9	27825	36.8	3.376	91.1	.1309	-39.6			849.4	56.2	120.
129	10.8	27888	35.6	3.296	88.0	.1312	-39.9			850.6	57.0	128.
130	10.7	27951	31.8	2.970	78.6	.1314	-39.9			852.9	57.0	128.

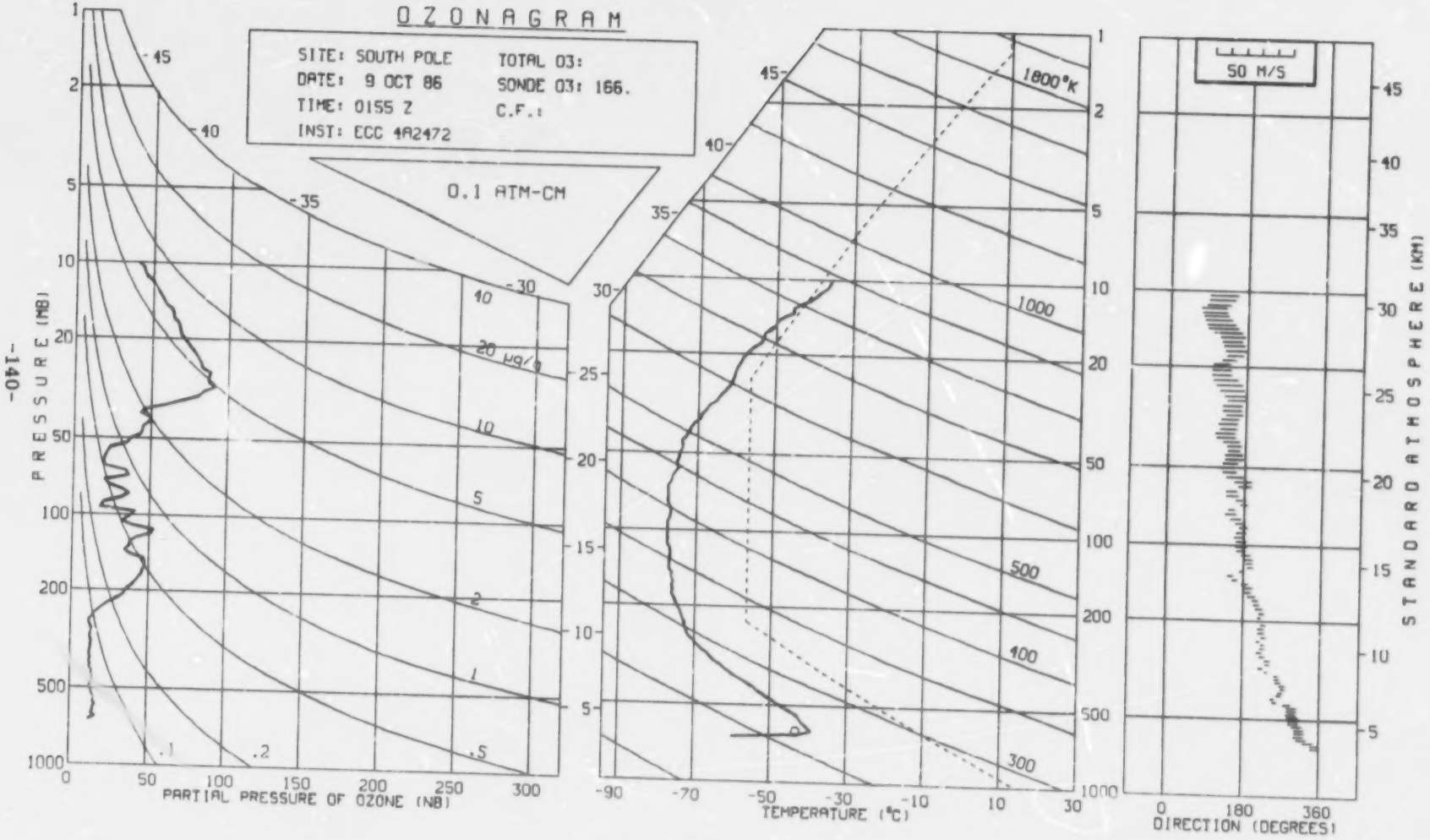
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.0	12.7	38.0	34.3	46.2	77.0	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110107108602           991.092   ECC     TOTAL O3 FROM SONDE DATA  158
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110207108602    667 19-56       500 17-46349 10 300 10-67346  5 200 29-76265  2
1110307108602    150 51-78202  2 100 43-78142  6  70 30-77131 10  50 33-75134 11
1110407108602     30 94-65128 2220.0 71-56123 60 640 17-39 -7 10 435 15-49 -5  7
1110507108602    258 11-74321  8 174 49-75222  2 123 43-77194  1 111 27-78151  4
1110607108602    106 48-78145  5  94 39-79131  6  91 24-78137  8  86 15-78128  8
1110707108602     76 43-76156  7  72 44-77139 10  65 36-78127 10  63 28-78122 10
1110807108602     38 56-73122 17  36 56-70119 15  32 78-68131 14  31 93-64110 16
1110907108602   27.4 97-64127 5425.3 86-63129 4315.1 50-48120 6812.7 50-45112 65
1111007108602   12.0 44-40119 7010.7 32-40128 57
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 9 OCT 86 155 Z ECC SONDE: 4A2472
SURFACE CONDITIONS: PRESSURE 564.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.2 ORD;
O3 ORD ZERO 33.4, BKGND 33.7, CAL 70.3; O3 BKGND .043 MICROAMP; FLOW RATE 27.2 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 166.; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	664.5	2800	12.1	.018	32.8	.0000	-60.2			239.4		
1	647.0	2973	16.4	.025	41.2	.0003	-42.7			261.0	5.6	350.
2	630.0	3154	13.9	.022	34.3	.0006	-39.5	-43.4	67.5	266.7	5.6	350.
3	613.0	3340	15.1	.025	37.4	.0009	-40.3			267.8	6.6	334.
4	596.0	3531	15.0	.025	37.3	.0013	-41 0			269.2	6.7	319.
5	580.0	3715	16.1	.028	40.2	.0016	-42.0			270.1	6.5	312.
6	564.0	3904	15.1	.027	37.8	.0019	-42.4			271.8	6.2	314.
7	549.0	4085	15.6	.028	39.2	.0023	-43.1			273.1	6.4	313.
8	533.0	4283	14.8	.028	37.4	.0026	-44.5			273.7	6.6	308.
9	518.0	4473	13.9	.027	35.2	.0029	-45.9			274.2	6.8	300.
10	503.0	4667	13.8	.027	35.4	.0033	-47.4			274.8	7.1	300.
11	488.0	4866	12.8	.026	33.1	.0036	-48.8			275.3	6.9	298.
12	475.0	5043	13.5	.028	34.8	.0039	-49.7			276.4	6.8	294.
13	461.0	5238	13.9	.030	36.3	.0042	-51.3			276.8	6.8	297.
14	447.0	5437	13.9	.031	36.4	.0045	-52.4		-	277.9	6.7	296.
15	434.0	5627	13.5	.031	35.4	.0048	-53.8			278.5	5.1	284.
16	422.0	5806	13.9	.033	36.7	.0052	-54.4			279.9	3.0	256
17	409.0	6005	12.5	.031	33.1	.0055	-55.9			280.5	2.3	250.
18	396.0	6209	12.9	.033	34.6	.0058	-57.2			281.4	2.5	265.
19	384.0	6402	12.0	.031	32.2	.0061	-58.8			281.8	2.5	269.
20	372.0	6600	13.1	.035	35.5	.0064	-60.2			282.5	2.7	275.
21	360.0	6804	12.1	.034	33.0	.0067	-61.3			283.7	3.4	273.
22	349.0	6995	12.6	.036	34.4	.0070	-62.6			284.5	3.4	263.
23	338.0	7192	13.0	.038	35.8	.0074	-63.5			285.8	3.1	260.
24	327.0	7394	13.0	.040	36.0	.0077	-65.1			286.3	2.7	259.
25	317.0	7582	13.4	.042	37.4	.0080	-66.1			287.5	2.1	234.
26	306.0	7795	12.5	.041	34.9	.0084	-66.9			289.3	2.7	222.
27	296.0	7994	12.9	.044	36.4	.0087	-68.4			289.9	3.7	237.
28	286.0	8199	13.8	.048	39.2	.0091	-69.3			291.5	3.9	238.
29	275.0	8432	12.6	.046	35.8	.0095	-70.4			293.2	3.4	225.
30	266.0	8629	11.6	.044	33.2	.0098	-71.6			294.3	3.5	219.
31	257.0	8831	13.4	.052	38.6	.0102	-72.3			296.1	3.1	225.
32	248.0	9040	14.8	.060	42.7	.0106	-72.5			298.8	2.5	226.
33	240.0	9232	17.6	.073	50.8	.0110	-73.0			300.9	2.3	216.
34	232.0	9430	20.3	.088	58.7	.0115	-73.0			303.8	3.2	228.
35	223.0	9661	24.5	.110	70.9	.0122	-73.5			306.5	4.3	222.
36	215.0	9874	29.8	.139	86.4	.0130	-73.8			309.4	3.7	222.
37	207.0	10095	34.2	.165	99.3	.0139	-74.3			311.9	2.9	227.
38	200.0	10295	34.6	.173	103.7	.0148	-75.0			313.8	2.6	210.
39	193.7	10480	37.6	.194	109.7	.0158	-75.3			316.3	2.2	218.
40	186.8	10689	40.8	.218	119.3	.0169	-75.8			318.7	3.2	223.
41	180.0	10903	42.9	.238	125.9	.0181	-76.4			321.2	4.6	216.
42	173.5	11115	45.4	.262	132.9	.0194	-76.1			325.1	4.0	210.
43	167.2	11328	45.8	.274	134.3	.0207	-76.4			328.1	4.2	207.
44	161.2	11538	47.3	.293	138.7	.0221	-76.1			332.0	5.1	198.
45	155.3	11752	47.2	.304	138.7	.0235	-76.6			334.6	4.7	188.
46	149.6	11967	46.7	.312	137.2	.0248	-76.4			338.7	4.7	192.
47	144.2	12186	38.2	.265	112.5	.0261	-77.2			340.9	4.2	183.
48	138.4	12413	34.2	.247	100.7	.0272	-77.2			344.8	4.2	159.
49	133.1	12637	37.3	.280	109.9	.0284	-77.2			348.7	4.0	149.

STATION: SOUTH POLE LAUNCH DATE: 9 OCT 86 155 Z ECC SONDE: 4A2472

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP - C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	128.0	12861	37.6	.294	110.6	.0295	-76.9			353.1	3.5	175.
51	122.9	13094	41.9	.341	123.2	.0308	-76.9			357.2	4.3	194.
52	118.2	13318	51.1	.432	150.3	.0322	-76.9			361.2	4.5	193.
53	113.7	13540	52.7	.464	155.7	.0338	-77.7			363.7	6.0	191.
54	109.4	13760	38.4	.351	113.5	.0352	-77.7			367.7	6.6	184.
55	105.2	13984	32.5	.309	95.9	.0363	-77.7			371.9	6.1	173.
56	101.1	14211	37.1	.367	109.6	.0374	-77.7			376.1	6.9	174.
57	96.9	14453	40.5	.418	119.6	.0387	-77.7			380.7	7.1	173.
58	93.1	14681	17.6	.189	51.9	.0396	-77.7			385.1	6.8	167.
59	89.4	14913	19.8	.221	58.2	.0402	-77.2			390.7	6.5	173.
60	85.8	15149	31.0	.361	91.1	.0410	-76.9			395.8	5.9	178.
61	82.5	15374	36.5	.442	107.3	.0421	-76.9			400.3	6.1	170.
62	79.3	15601	32.1	.405	94.7	.0431	-77.5			403.7	7.1	159.
63	76.0	15844	23.0	.303	68.0	.0441	-77.7			408.1	6.9	148.
64	73.0	16074	20.5	.281	60.6	.0447	-77.5			413.4	4.5	150.
65	69.9	16322	36.0	.515	106.3	.0457	-77.7			417.9	5.0	179.
66	67.0	16564	34.2	.510	101.0	.0469	-77.7			423.0	7.2	171.
67	64.4	16791	20.9	.325	61.5	.0477	-76.9			429.7	8.5	151.
68	61.8	17028	19.4	.314	56.9	.0484	-76.6			435.4	7.4	149.
69	59.4	17256	20.2	.340	59.0	.0490	-76.8			442.1	8.4	180.
70	57.0	17494	21.9	.384	63.9	.0497	-75.0			449.2	11.6	175.
71	54.6	17743	23.8	.436	69.6	.0505	-75.6			453.5	11.0	155.
72	52.3	17992	34.9	.667	101.8	.0515	-75.0			460.3	9.0	143.
73	50.2	18229	36.5	.727	106.5	.0526	-75.0			465.8	9.3	136.
74	48.0	18489	43.5	.906	126.3	.0540	-74.3			473.6	9.8	144.
75	46.1	18724	44.4	.963	128.6	.0554	-74.0			479.7	11.8	154.
76	44.2	18969	44.8	1.014	129.9	.0569	-74.3			484.9	11.3	153.
77	42.4	19211	48.9	1.153	141.2	.0585	-73.3			493.2	8.3	152.
78	40.6	19465	49.7	1.224	143.0	.0601	-72.5			501.1	9.2	153.
79	39.0	19701	43.5	1.115	125.0	.0616	-72.0			508.1	11.0	146.
80	37.5	19932	46.4	1.237	132.7	.0630	-71.3			515.7	12.9	133.
81	36.0	20174	59.3	1.647	168.3	.0547	-69.7			525.9	13.1	131.
82	34.6	20410	69.5	2.009	196.7	.0667	-69.3			533.0	11.4	139.
83	33.2	20657	80.4	2.422	226.5	.0697	-68.2			542.2	12.1	137.
84	31.8	20916	84.2	2.648	236.1	.0720	-67.4			551.2	11.7	142.
85	30.5	21168	91.2	2.990	253.7	.0749	-65.5			562.9	11.3	151.
86	29.3	21412	87.2	2.976	241.9	.0777	-64.9			571.0	13.1	145.
87	28.2	21646	87.2	3.092	240.5	.0803	-63.7			580.6	12.8	147.
88	26.9	21936	88.4	3.286	242.1	.0836	-62.4			592.2	11.9	155.
89	25.8	22194	83.0	3.217	226.6	.0864	-61.6			601.4	13.8	151.
90	24.6	22489	81.0	3.329	223.0	.0895	-61.1			611.2	16.3	145.
91	23.4	22799	80.1	3.423	217.6	.0927	-60.7			621.1	17.6	138.
92	22.4	23071	77.9	3.478	211.1	.0954	-60.2			630.5	16.2	129.
93	21.4	23356	74.8	3.495	202.1	.0982	-59.3			641.4	12.9	120.
94	20.5	23625	72.8	3.551	196.0	.1007	-58.8			651.0	12.2	120.
95	19.5	23940	69.3	3.554	185.6	.1035	-57.4			664.6	10.7	121.
96	18.8	24171	68.3	3.633	181.5	.1055	-56.1			675.7	8.5	136.
97	18.1	24413	67.9	3.751	179.0	.1075	-54.3			688.7	11.2	150.
98	17.3	24703	65.9	3.867	176.1	.1099	-53.6			699.7	13.8	151.
99	16.6	24968	63.7	3.837	167.2	.1120	-53.3			709.1	13.5	147.
100	16.0	25205	63.7	3.981	166.3	.1139	-51.9			721.2	13.2	143.
101	15.3	25495	62.6	4.092	162.2	.1161	-50.3			735.5	15.8	144.
102	14.7	25756	59.1	4.020	152.8	.1180	-49.9			745.5	18.4	133.
103	14.1	26029	57.2	4.057	146.6	.1200	-48.1			760.5	19.5	122.
104	13.6	26268	56.0	4.118	142.3	.1216	-45.9			775.8	19.2	115.

STATION: SOUTH POLE LAUNCH DATE: 9 OCT 86 155 Z ECC SONDE: 4A2472

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
105	13.0	28568	54.0	4.154	137.3	.1235	-45.9			785.9	18.0	110.
106	12.5	26830	52.5	4.200	132.1	.1252	-43.8			802.2	15.9	105.
107	12.1	27049	51.3	4.240	128.1	.1265	-41.7			817.1	16.5	102.
108	11.6	27336	48.9	4.216	121.2	.1282	-40.0			833.0	16.5	100.
109	11.3	27515	46.1	4.080	113.7	.1292	-39.2			842.2	15.6	110.
110	10.8	27826	44.5	4.120	108.9	.1308	-37.2			860.5	16.8	118.
111	10.4	28087	43.7	4.202	106.7	.1321	-36.5			872.4	18.8	122.
112	10.0	28359	40.0	4.000	97.3	.1334	-36.0			884.2	18.8	122.

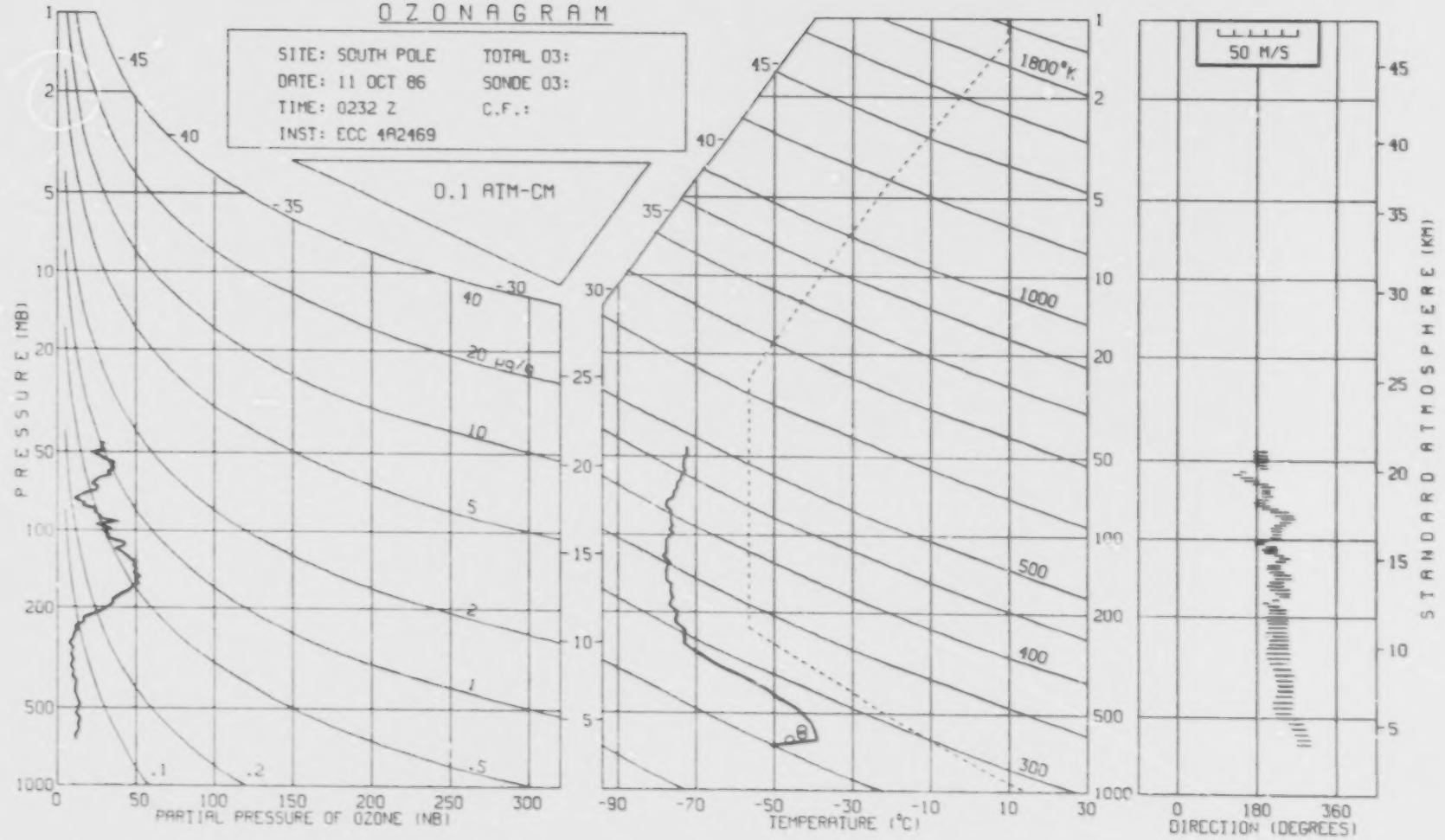
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.8	13.0	36.2	32.9	45.7	76.5	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS			
111010910860 2	99	ECC TOTAL O3 FROM SONDE DATA 156			
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP	P3TTTDDDFFF	
111020910860 2	665 12-60	500 14-48300	7 300 13-68231	3 200 35-75210	3
111030910860 2	150 47-76192	5 100 38-78174	7 70 35-78178	5 50 37-75137	3
111040910860 2	30 90-65145	1220.0 71-58120	11 647 16-43350	6 630 14-40350	6
111050910860 2	257 13-72225	3 138 34-77159	4 114 53-78191	6 105 33-78173	6
111060910860 2	97 41-78173	7 93 18-78167	7 83 37-77170	6 73 21-78150	5
111070910860 2	62 13-77149	7 42 49-73152	8 38 46-71133	13 33 80-68137	12
111080910860 2	14.7 59-50133	1810.8 45-37118	1710.0 40-36122	19	


OZONAGRAM
SITE: SOUTH POLE
DATE: 11 OCT 86
TIME: 0232 Z
INST: ECC 4A2469
TOTAL O3:
SONDE O3:
C.F.:
0.1 ATM-CM
PRESSURE (MB)
PARTIAL PRESSURE OF OZONE (NB)
TEMPERATURE (°C)
DIRECTION (DEGREES)
STANDARD ATMOSPHERE (KM)
50 M/S
20 µg/g
1800°K
1000
500
400
300

144

STATION: SOUTH POLE LAUNCH DATE: 11 OCT 86 232 Z ECC SONDE: 4A2469
SURFACE CONDITIONS: PRESSURE 668.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.5 ORD;
O3 ORD ZERO 32.5, BKGND 32.7, CAL 67.3; O3 BKGND .030 MICROAMP; FLOW RATE 26.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	668.0	2800	11.6	.017	30.3	.0000	-51.1			249.2		
1	636.0	3127	11.6	.018	28.8	.0004	-39.3	-46.3	48.4	266.1	8.9	288.
2	608.0	3435	13.7	.023	33.8	.0009	-39.5	-43.1	69.7	269.4	8.9	288.
3	579.0	3769	13.2	.023	32.8	.0014	-39.9	-43.2	72.1	272.7	9.3	282.
4	551.0	4107	14.2	.026	35.3	.0020	-40.6			275.8	9.7	276.
5	526.0	4422	11.7	.022	29.1	.0024	-41.7			278.1	10.0	270.
6	503.0	4724	13.6	.027	34.2	.0029	-43.1			280.0	9.4	254.
7	480.0	5038	14.2	.030	35.8	.0034	-44.5			282.0	10.6	240.
8	458.0	5350	12.7	.028	32.3	.0039	-46.6			283.1	13.2	238.
9	437.0	5659	11.7	.027	30.1	.0043	-49.3			283.6	13.0	240.
10	415.0	5996	11.7	.028	30.4	.0048	-51.3			285.3	11.1	243.
11	396.0	6299	12.0	.030	31.7	.0053	-53.5			286.3	10.0	245.
12	377.0	6613	9.7	.026	25.7	.0057	-56.1			286.9	10.0	246.
13	358.0	6939	10.2	.028	27.3	.0061	-58.8			287.5	10.9	243.
14	339.0	7278	8.7	.026	23.7	.0065	-62.2			287.4	12.2	244.
15	321.0	7612	10.3	.032	28.4	.0069	-65.1			287.9	11.6	238.
16	304.0	7941	8.7	.029	24.4	.0073	-67.4			289.2	12.2	229.
17	289.0	8244	10.1	.035	28.6	.0077	-69.5			290.3	14.9	230.
18	276.0	8517	7.7	.028	22.0	.0080	-71.6			291.2	15.2	229.
19	263.0	8800	10.2	.039	29.6	.0083	-73.3			292.8	14.0	227.
20	254.0	9003	10.7	.042	31.0	.0086	-73.0			296.1	12.9	230.
21	245.0	9214	12.7	.052	36.7	.0090	-73.3			298.8	13.3	230.
22	237.0	9408	11.7	.049	33.7	.0093	-73.0			302.0	15.1	226.
23	228.0	9634	17.0	.075	49.3	.0097	-73.8			304.2	14.8	225.
24	219.0	9868	17.0	.078	49.7	.0103	-75.3			305.4	12.6	228.
25	211.0	10083	24.1	.114	70.4	.0109	-75.3			308.6	12.7	228.
26	205.0	10250	29.4	.143	85.6	.0115	-75.0			311.6	14.0	228.
27	199.0	10422	32.5	.163	94.7	.0122	-75.0			314.2	12.9	225.
28	192.0	10629	35.8	.186	105.0	.0132	-76.4			315.3	11.6	227.
29	186.4	10799	35.4	.190	104.1	.0140	-76.9			317.1	10.9	229.
30	181.0	10968	38.5	.213	113.2	.0149	-76.6			320.3	8.0	219.
31	175.9	11132	42.1	.239	123.3	.0158	-76.1			323.8	4.4	201.
32	171.3	11284	46.1	.269	135.1	.0167	-76.4			325.8	4.4	224.
33	166.4	11451	47.7	.287	140.1	.0178	-76.6			328.1	6.9	243.
34	161.3	11630	51.9	.322	152.5	.0190	-76.6			331.0	10.0	240.
35	156.1	11818	49.8	.319	146.2	.0203	-76.4			334.6	12.8	233.
36	151.4	11993	52.7	.348	155.8	.0215	-77.7			335.1	11.3	223.
37	146.8	12169	49.2	.335	145.3	.0228	-77.7			338.1	9.4	226.
38	142.3	12347	50.7	.356	149.9	.0240	-77.7			341.1	10.8	241.
39	138.0	12522	48.5	.351	143.4	.0252	-77.7			344.1	11.3	238.
40	134.0	12690	50.5	.377	149.1	.0263	-77.5			347.5	9.4	225.
41	130.2	12855	46.2	.355	135.8	.0274	-76.9			351.4	9.3	217.
42	126.4	13025	44.3	.350	130.6	.0285	-77.5			353.4	8.4	219.
43	122.5	13204	41.6	.340	123.5	.0296	-78.6			354.5	6.3	234.
44	118.9	13374	37.6	.316	111.0	.0305	-77.7			359.1	6.6	244.
45	115.5	13540	42.9	.371	126.7	.0314	-77.7			362.1	6.1	230.
46	112.5	13690	43.2	.384	127.7	.0323	-77.7			364.8	8.1	212.
47	109.8	13829	37.0	.337	109.4	.0331	-77.7			367.3	10.1	210.
48	107.0	13976	31.8	.297	94.0	.0338	-77.7			370.1	6.3	213.
49	104.1	14133	32.9	.316	97.3	.0345	-77.7			373.0	6.2	187.

STATION: SOUTH POLE LAUNCH DATE: 11 OCT 86 232 Z ECC SONDE: 4A2469

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	101.3	14289	29.8	.294	87.5	.0352	-76.6			378.0	7.7	191.
51	98.4	14456	33.7	.342	98.7	.0359	-76.1			382.2	6.2	223.
52	95.3	14640	25.7	.270	75.6	.0366	-76.9			384.1	6.1	226.
53	92.6	14805	38.2	.413	111.9	.0374	-76.1			388.9	7.0	225.
54	90.0	14969	27.7	.308	81.3	.0381	-76.4			391.6	8.1	226.
55	87.6	15124	27.6	.315	81.1	.0387	-76.6			394.1	7.9	234.
56	85.2	15283	24.0	.282	70.4	.0393	-76.6			397.2	7.8	246.
57	82.7	15454	24.6	.297	72.1	.0398	-76.4			401.1	8.8	252.
58	80.4	15616	16.8	.209	49.5	.0403	-76.6			403.8	12.0	243.
59	78.1	15782	17.2	.220	50.9	.0407	-77.7			404.9	11.9	232.
60	76.0	15938	11.6	.153	34.3	.0410	-77.7			408.1	10.5	211.
61	74.0	16090	14.3	.193	42.2	.0413	-77.5			411.8	9.7	194.
62	72.0	16247	18.1	.251	53.1	.0416	-76.1			417.9	7.5	187.
63	70.1	16401	25.3	.361	74.1	.0421	-75.8			421.7	7.5	195.
64	68.2	16559	25.9	.380	75.9	.0425	-75.8			425.0	7.6	204.
65	66.4	16713	22.4	.337	65.2	.0431	-75.0			430.0	5.9	200.
66	64.7	16863	24.5	.379	71.5	.0436	-75.0			433.2	5.9	202.
67	62.9	17026	27.2	.432	79.0	.0442	-74.8			437.3	9.3	204.
68	61.3	17176	34.0	.555	98.5	.0448	-74.0			442.2	10.0	188.
69	59.7	17330	32.7	.548	94.7	.0455	-74.0			445.6	9.6	168.
70	58.0	17498	36.5	.629	105.3	.0463	-73.3			450.9	8.7	158.
71	56.5	17651	35.2	.623	101.6	.0470	-73.0			454.9	5.8	134.
72	54.9	17819	36.5	.665	105.6	.0478	-73.5			457.5	3.9	149.
73	53.3	17992	30.0	.563	86.7	.0486	-73.3			462.0	5.4	197.
74	51.8	18159	27.7	.535	80.1	.0493	-73.3			465.7	6.5	191.
75	50.4	18319	22.9	.454	66.1	.0498	-72.8			470.6	7.8	187.
76	49.0	18484	29.9	.610	86.0	.0504	-72.5			474.9	9.6	191.
77	47.6	18654	28.2	.592	81.0	.0511	-72.5			478.9	9.1	188.
78	46.2	18829	29.8	.645	85.8	.0518	-72.5			483.0	9.1	188.

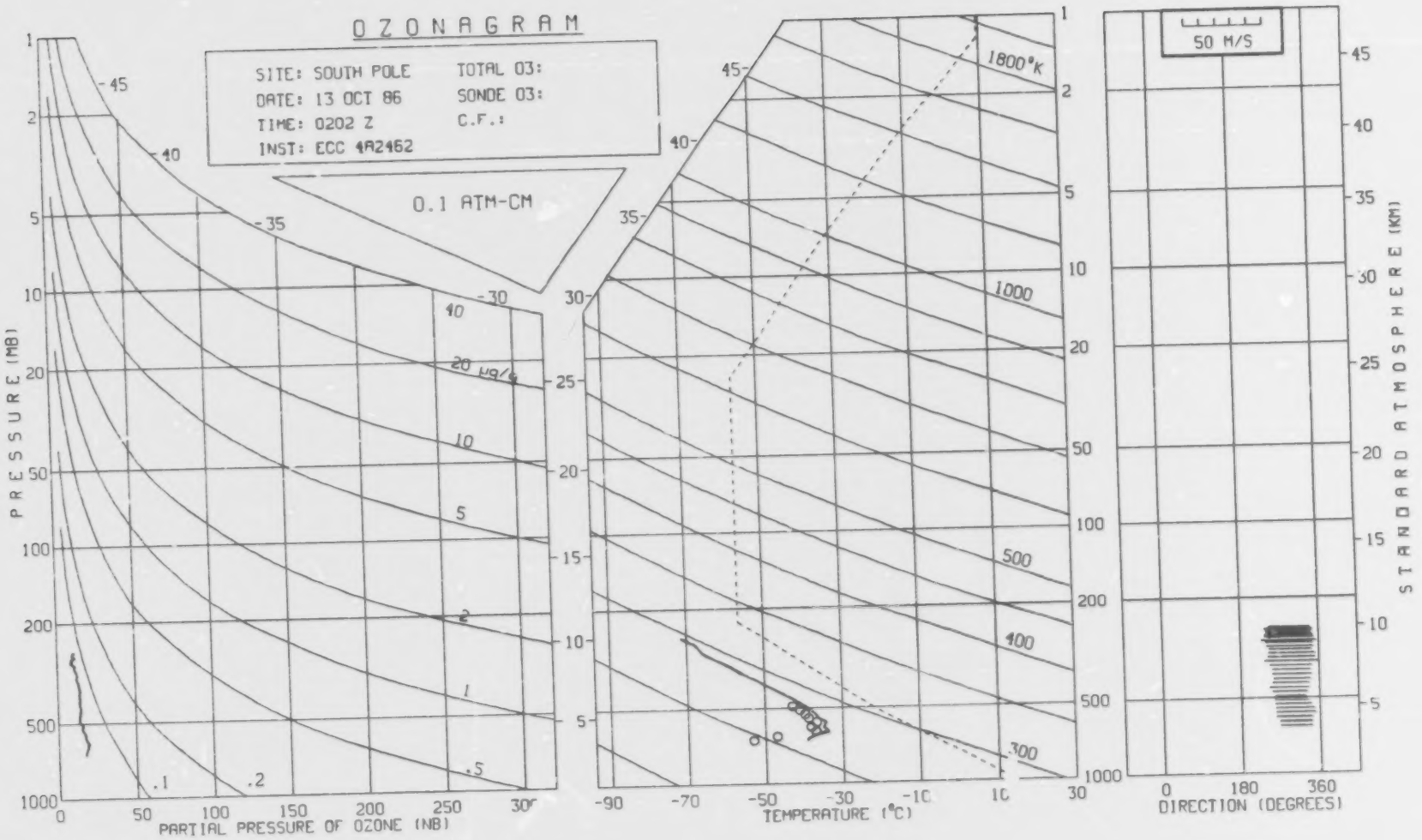
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.9	10.7	36.8	26.3	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110111108603           99        ECC    TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110211108603    668 12-51       500 14-43252 10 300  9-68229 13 200 32-75226 13
1110311108603    150 52-78224 11 100 32-76205  7  70 25-76195  8  50 25-73188  8
1110411108603    636 12-39288  9 263 10-73227 14 219 17-75228 13 123 42-79234  6
1110511108603     95 26-77226  6  93 38-76225  7  90 28-76226  8  76 12-78211 11
1110611108603     55 37-74149  4  46 30-73188  9
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 13 OCT 86 202 Z ECC SONDE: 4A2462
SURFACE CONDITIONS: PRESSURE 679.6 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.3 ORD;
O3 ORD ZERO 33.4, BKGND 33.6, CAL 69.5; O3 BKGND .029 MICROAMP; FLOW RATE 27.5 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	679.6	2800	17.3	.025	42.7	.0000	-39.4	-53.3	21.6	261.1		
1	654.0	3063	17.8	.027	43.8	.0005	-37.9	-47.2	37.4	265.6	20.7	305.
2	627.0	3356	18.9	.030	45.5	.0011	-33.9	-37.1	73.6	273.4	20.7	305.
3	600.0	3663	19.2	.032	46.5	.0018	-35.1	-38.4	73.1	275.5	23.1	302.
4	574.0	3972	17.4	.030	42.0	.0024	-34.5	-37.0	79.8	279.7	25.4	304.
5	551.0	4256	17.2	.031	41.9	.0030	-36.5	-39.0	79.1	280.6	24.8	303.
6	530.0	4524	15.2	.029	37.2	.0035	-37.2	-39.9	77.5	282.9	23.5	299.
7	511.0	4775	15.7	.031	38.5	.0039	-38.4	-41.3	75.9	284.4	22.3	296.
8	493.0	5020	13.7	.028	34.0	.0044	-39.8	-43.1	72.1	285.6	18.7	294.
9	474.0	5287	13.8	.029	34.4	.0048	-42.0			286.1	22.2	292.
10	456.0	5548	14.2	.031	35.8	.0052	-43.7			287.2	25.4	292.
11	438.0	5817	14.7	.034	37.3	.0057	-45.9			287.7	23.6	295.
12	422.0	6063	13.7	.032	35.2	.0061	-48.0			288.1	24.0	298.
13	405.0	6332	14.3	.035	37.1	.0065	-50.4			288.4	25.4	298.
14	389.0	6593	13.8	.035	36.0	.0070	-52.4			289.1	24.5	297.
15	375.0	6828	14.2	.038	37.6	.0074	-54.4			289.5	27.0	296.
16	361.0	7070	13.7	.038	36.6	.0078	-56.6			289.8	33.9	297.
17	347.0	7319	13.2	.038	35.5	.0082	-58.5			290.5	29.9	298.
18	335.0	7539	12.2	.036	33.1	.0086	-60.2			291.0	29.7	298.
19	323.0	7765	12.7	.039	34.7	.0089	-62.6			290.8	27.2	295.
20	314.0	7938	11.8	.038	32.6	.0092	-64.3			290.8	29.8	294.
21	304.0	8135	10.8	.036	30.2	.0095	-65.9			291.2	29.8	292.
22	298.0	8255	11.1	.037	31.2	.0097	-66.5			292.0	35.9	292.
23	291.0	8398	8.3	.029	23.2	.0099	-67.0			293.4	31.0	292.
24	286.0	8502	9.2	.032	25.9	.0100	-67.4			294.3	30.6	292.
25	282.0	8586	9.2	.033	25.9	.0101	-68.0			294.5	28.0	292.
26	278.0	8671	11.2	.040	31.5	.0102	-68.4			295.1	26.3	290.
27	276.0	8714	10.7	.039	30.3	.0103	-69.3			294.5	29.1	292.
28	273.0	8779	9.7	.036	27.6	.0103	-69.8			294.7	24.9	289.
29	271.0	8822	9.7	.036	27.7	.0104	-70.2			294.7	30.5	291.
30	269.0	8865	10.3	.038	29.3	.0105	-70.7			294.7	22.6	291.
31	267.0	8909	10.3	.039	29.3	.0105	-71.1			294.6	25.5	293.
32	266.0	8931	10.7	.040	30.6	.0106	-71.4			294.6	25.5	293.
33	265.0	8953	11.1	.042	31.9	.0106	-71.6			294.6		

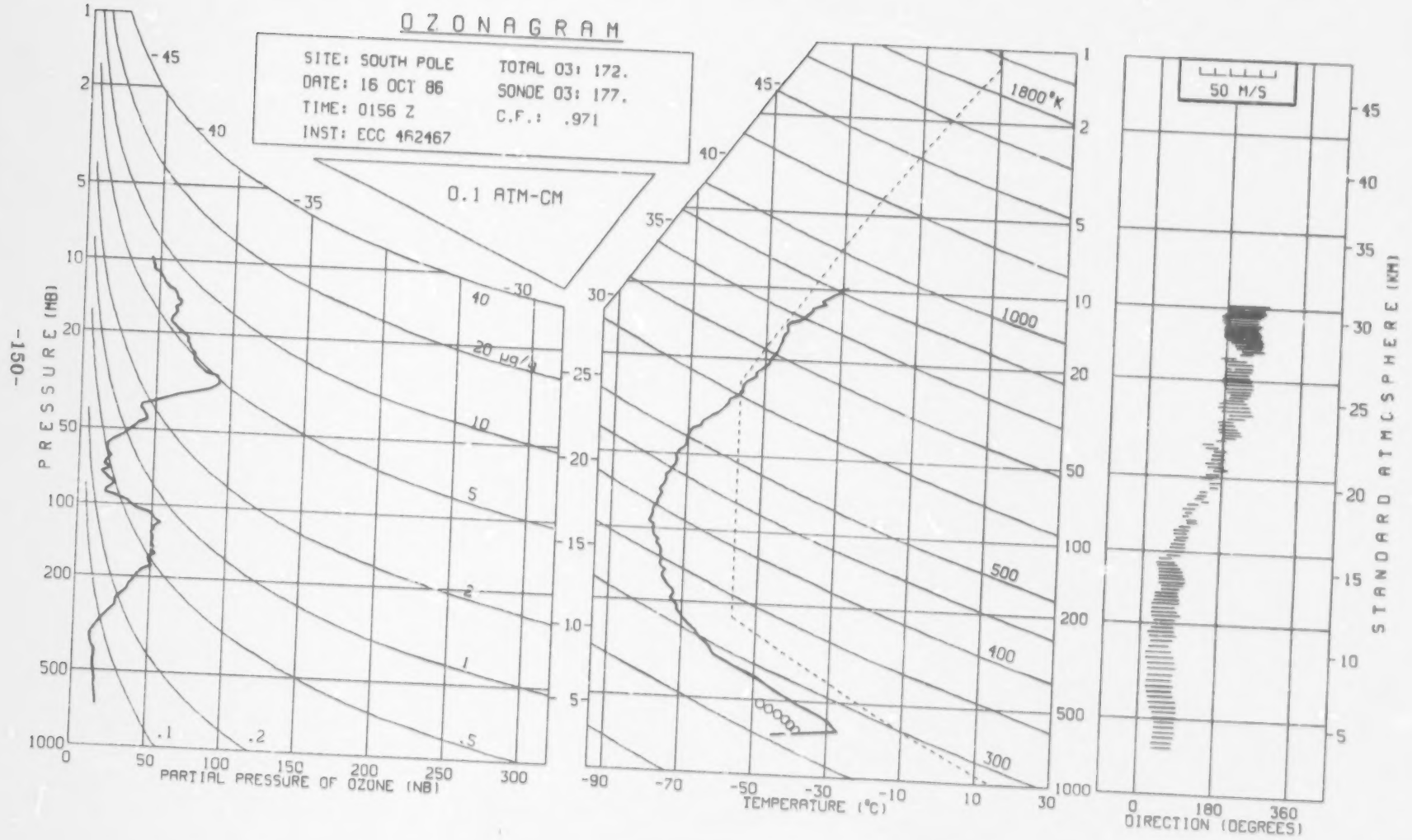
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
17.3	12.9	999.9	999.9	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110113108602           99        ECC     TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110213108602    680 17-39       500 14-39295 20 300 11-66292 33 627 19-31305 21
1110313108602    265 11-72
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 16 OCT 86 156 Z ECC SONDE: 4A2467
SURFACE CONDITIONS: PRESSURE 681.8 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.1 ORD;
O3 ORD ZERO 33.3, BKGND 33.5, CAL 70.6; O3 BKGND .028 MICROAMP; FLOW RATE 28.7 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 172.; SONDE TOTAL O3 177.; C.F. .971

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	681.8	2800	16.3	.024	41.4	.0000	-45.2			254.3		
1	650.0	3131	16.3	.025	38.3	.0006	-27.5	-38.5	34.5	277.9	13.8	58.
2	621.0	3458	15.7	.025	37.2	.0012	-28.7	-39.9	33.4	280.1	13.8	58.
3	593.0	3787	15.3	.026	36.4	.0018	-30.2	-41.3	33.4	282.0	14.2	63.
4	566.0	4117	14.9	.026	35.5	.0023	-32.4	-43.4	33.1	283.3	14.6	65.
5	540.0	4446	15.2	.028	36.7	.0029	-35.3	-45.8	33.9	283.7	13.6	64.
6	517.0	4747	14.7	.028	36.1	.0034	-38.3	-48.2	35.0	283.6	13.4	64.
7	494.0	5058	14.2	.029	35.2	.0039	-40.6			284.5	15.0	65.
8	471.0	5381	13.8	.029	34.7	.0044	-42.9			285.5	16.4	62.
9	449.0	5701	13.8	.031	35.0	.0049	-45.3			286.4	18.0	59.
10	427.0	6034	14.3	.033	36.4	.0055	-47.5			287.8	18.4	56.
11	406.0	6365	14.2	.035	36.7	.0061	-49.6			289.2	16.9	52.
12	385.0	6710	12.2	.032	32.2	.0066	-52.7			289.6	16.9	49.
13	364.0	7069	11.4	.031	30.2	.0071	-55.7			290.2	18.4	48.
14	344.0	7426	11.4	.033	30.6	.0077	-58.6			291.0	16.7	47.
15	325.0	7780	13.8	.042	37.6	.0082	-61.5			291.9	17.1	50.
16	305.0	8172	17.1	.056	46.9	.0090	-62.4			295.9	19.0	53.
17	291.0	8461	19.9	.068	54.9	.0097	-63.7			298.0	18.4	52.
18	277.0	8762	23.7	.086	66.0	.0105	-65.5			299.7	18.9	47.
19	263.0	9076	27.3	.104	76.1	.0116	-66.3			303.0	17.8	45.
20	249.0	9405	27.7	.111	78.0	.0128	-68.2			304.9	13.6	45.
21	237.0	9700	30.9	.130	87.6	.0139	-69.7			306.9	14.7	51.
22	226.0	9982	34.7	.153	98.8	.0151	-70.6			309.7	17.9	53.
23	217.0	10222	35.6	.164	102.1	.0163	-71.6			311.9	17.8	48.
24	208.0	10472	38.3	.184	109.8	.0175	-71.6			315.7	14.8	52.
25	201.0	10673	40.1	.200	115.4	.0185	-72.5			317.3	11.2	56.
26	193.7	10889	41.4	.214	119.6	.0197	-73.3			319.5	14.3	56.
27	186.4	11114	44.9	.241	129.3	.0210	-72.5			324.2	18.7	59.
28	179.4	11338	50.9	.234	146.7	.0225	-72.8			327.4	17.1	54.
29	172.6	11563	48.9	.283	141.7	.0240	-74.3			328.6	15.7	52.
30	166.5	11772	48.6	.292	141.6	.0254	-75.0			330.7	18.3	56.
31	160.9	11970	52.7	.328	154.2	.0268	-75.8			332.6	16.9	59.
32	155.5	12167	50.6	.325	148.1	.0282	-75.8			335.8	15.6	59.
33	150.3	12363	51.6	.343	150.2	.0295	-75.0			340.5	15.0	56.
34	145.2	12562	50.5	.348	148.0	.0309	-76.1			342.0	12.9	57.
35	140.3	12759	50.9	.363	149.6	.0323	-76.6			344.4	15.1	71.
36	135.6	12955	51.2	.377	150.0	.0337	-76.1			348.8	18.1	70
37	131.0	13154	49.7	.380	145.8	.0350	-76.4			351.7	17.3	70.
38	126.6	13350	51.4	.406	150.7	.0364	-76.4			355.2	16.3	67.
39	122.4	13544	51.8	.423	151.8	.0378	-76.4			358.6	16.4	66.
40	118.4	13735	55.5	.468	163.3	.0392	-76.9			361.1	15.1	63.
41	114.7	13917	52.5	.458	155.1	.0405	-77.7			362.8	14.0	58.
42	111.0	14104	50.9	.459	149.9	.0419	-77.2			367.3	12.2	53.
43	107.3	14298	48.7	.454	144.1	.0432	-78.3			368.7	8.3	53.
44	103.5	14503	46.0	.387	118.8	.0445	-78.6			371.9	9.2	72.
45	99.6	14721	35.5	.357	105.5	.0456	-78.6			376.1	12.2	75.
46	96.4	14907	33.3	.346	98.9	.0465	-78.6			379.6	10.3	81.
47	93.3	15092	26.6	.285	79.5	.0473	-79.8			380.8	9.3	82.
48	90.2	15283	18.0	.199	53.4	.0479	-79.2			385.7	8.2	86.
49	87.3	15468	18.8	.216	55.9	.0483	-78.9			389.9	8.3	91.

STATION: SOUTH POLE LAUNCH DATE: 16 OCT 86 156 Z ECC SONDE: 4A2467

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	84.5	15653	22.6	.268	67.4	.0489	-78.9			393.5	9.1	86.
51	81.8	15837	24.4	.298	72.4	.0495	-78.6			397.8	10.4	89.
52	79.3	16014	20.2	.255	59.6	.0502	-77.7			403.1	7.8	96.
53	76.9	16189	18.9	.234	52.9	.0505	-77.7			406.7	7.0	114.
54	74.4	16378	15.2	.205	44.9	.0509	-77.2			411.7	7.7	112.
55	71.8	16582	21.1	.294	61.9	.0514	-76.6			417.1	4.6	97.
56	69.4	16777	17.0	.245	50.1	.0519	-77.2			420.0	4.9	104.
57	67.0	16979	18.4	.274	53.8	.0524	-76.4			426.0	8.6	104.
58	64.6	17189	21.5	.332	62.7	.0530	-75.8			431.7	7.3	114.
59	62.6	17370	19.6	.313	57.4	.0535	-75.6			436.1	4.9	142.
60	60.8	17538	18.7	.308	54.9	.0539	-75.8			439.2	6.0	128.
61	59.2	17692	18.6	.315	54.4	.0543	-74.8			444.9	6.2	133.
62	57.2	17891	19.6	.333	55.3	.0549	-74.3			450.5	4.7	137.
63	55.1	18109	22.5	.409	65.2	.0555	-73.3			457.6	5.6	161.
64	52.7	18369	29.1	.553	84.1	.0564	-73.0			464.0	7.0	163.
65	50.5	18618	32.6	.646	94.2	.0574	-73.3			469.1	8.1	145.
66	48.6	18842	36.0	.741	103.8	.0585	-72.5			476.0	9.0	158.
67	46.8	19064	39.0	.834	111.4	.0596	-71.1			484.6	9.6	177.
68	45.3	19257	44.9	.991	127.8	.0606	-70.6			490.3	10.8	164.
69	43.7	19470	44.0	1.007	125.4	.0619	-70.6			495.3	11.3	159.
70	42.0	19705	42.6	1.015	121.3	.0633	-70.2			502.1	9.4	169.
71	40.3	19950	40.1	.995	113.8	.0646	-69.7			509.2	7.6	169.
72	38.9	20161	41.3	1.061	116.8	.0658	-69.1			516.0	8.5	174.
73	37.6	20365	49.9	1.328	139.9	.0670	-66.9			526.5	8.9	154.
74	36.3	20577	57.9	1.595	161.8	.0685	-66.5			532.9	7.8	144.
75	35.0	20798	65.6	1.873	182.0	.0702	-65.1			542.2	7.0	174.
76	34.0	20975	76.3	2.245	210.7	.0719	-63.9			549.8	9.1	193.
77	33.1	21140	85.2	2.574	233.3	.0736	-62.4			558.1	12.5	201.
78	32.2	21310	89.3	2.772	243.4	.0755	-61.5			565.0	14.1	194.
79	31.3	21486	92.2	2.945	250.6	.0775	-60.7			571.6	13.2	189.
80	30.3	21688	91.8	3.029	248.3	.0799	-59.7			579.8	10.3	187.
81	29.3	21897	90.7	3.096	245.3	.0823	-59.5			585.9	10.0	183.
82	28.4	22093	82.8	2.914	221.7	.0844	-57.7			595.9	12.0	207.
83	27.4	22320	80.2	2.928	213.5	.0867	-56.1			606.8	16.0	219.
84	26.5	22532	77.2	2.914	205.3	.0888	-56.1			612.6	19.4	207.
85	25.6	22751	74.9	2.925	199.0	.0909	-55.9			619.1	21.6	201.
86	24.7	22979	74.9	3.032	198.2	.0930	-55.1			627.9	18.1	199.
87	24.0	23163	75.2	3.132	197.6	.0947	-53.5			637.7	12.9	201.
88	23.4	23326	73.8	3.155	193.1	.0962	-52.5			645.1	12.5	212.
89	22.8	23493	72.1	3.161	188.6	.0977	-52.7			649.5	13.6	216.
90	22.2	23665	71.8	3.233	187.4	.0992	-51.9			656.8	15.6	213.
91	21.5	23873	70.3	3.271	182.4	.1010	-50.5			666.9	18.5	213.
92	20.8	24089	70.5	3.390	182.0	.1028	-49.3			676.9	19.1	211.
93	20.2	24280	68.3	3.386	175.9	.1044	-49.1			683.1	19.6	207.
94	19.6	24478	65.6	3.345	168.5	.1060	-48.5			690.8	17.4	206.
95	19.0	24682	62.8	3.308	160.9	.1076	-47.7			699.7	15.6	206.
96	18.4	24894	60.4	3.283	154.2	.1091	-47.1			708.0	16.8	211.
97	17.9	25076	58.5	3.267	149.0	.1104	-46.8			714.5	16.5	214.
98	17.3	25302	59.4	3.436	151.2	.1120	-46.3			722.9	16.4	214.
99	16.8	25497	61.4	3.654	155.9	.1134	-45.9			730.4	14.3	203.
100	16.3	25698	62.6	3.838	159.0	.1149	-45.9			736.7	9.9	184.
101	15.7	25947	61.5	3.916	155.8	.1167	-45.3			746.5	9.2	228.
102	15.3	26119	64.7	4.228	163.3	.1180	-44.5			754.9	15.1	243.
103	14.8	26341	65.0	4.391	164.1	.1197	-44.5			762.1	17.1	233.
104	14.4	26524	62.3	4.324	157.4	.1211	-44.8			767.1	19.1	233.

STATION: SOUTH POLE LAUNCH DATE: 16 OCT 86 156 Z ECC SONDE: 4A2467

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	14.0	26712	62.2	4.440	156.5	.1225	-43.9			776.2	21.6	229.
106	13.6	26907	61.4	4.514	152.8	.1239	-41.3			791.7	23.7	221.
107	13.2	27110	60.2	4.562	149.3	.1253	-40.3			801.8	24.2	217.
108	12.9	27267	56.9	4.412	140.6	.1264	-39.5			810.0	24.9	217.
109	12.6	27428	55.4	4.394	136.3	.1274	-38.7			818.3	23.3	216.
110	12.3	27593	53.7	4.367	132.0	.1285	-38.1			825.8	22.5	212.
111	12.0	27763	53.2	4.436	130.7	.1295	-38.0			832.2	23.7	216.
112	11.8	27879	52.5	4.445	128.0	.1302	-36.5			841.4	23.7	219.
113	11.5	28058	51.4	4.468	124.4	.1313	-34.6			854.4	23.6	212.
114	11.2	28242	50.2	4.484	122.1	.1323	-35.7			857.0	24.2	210.
115	10.9	28431	46.6	4.295	113.2	.1334	-34.2			869.0	25.2	213.
116	10.7	28560	46.1	4.312	111.1	.1340	-33.4			876.5	27.8	217.
117	10.5	28692	46.2	4.403	111.0	.1347	-32.5			884.7	27.3	222.
118	10.4	28759	46.1	4.436	110.5	.1351	-32.1			888.6	24.3	227.
119	10.2	28896	45.4	4.447	107.9	.1358	-30.4			899.9	24.6	224.
120	10.0	29036	45.6	4.555	108.5	.1365	-30.9			903.0	25.7	227.
121	9.9	29107	45.1	4.552	106.7	.1368	-29.2			912.0	27.7	229.
122	9.8	29179	44.2	4.510	104.5	.1372	-28.9			915.7	27.7	229.

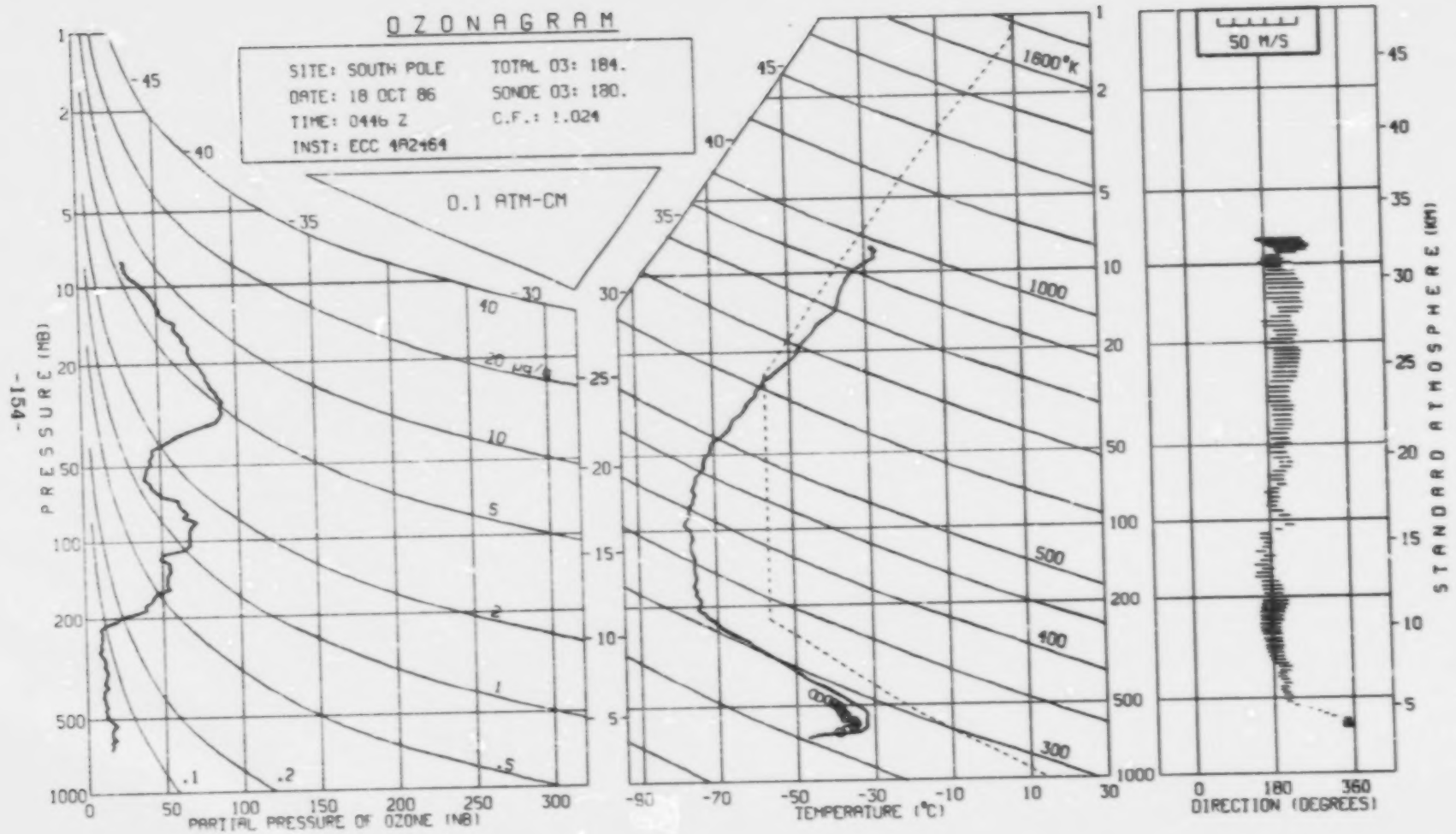
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
15.4	16.3	44.3	30.4	44.2	71.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110116108602   00172   99 .971   ECC    TOTAL O3 FROM SONDE DATA  177
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110216108602    682 16-45       500 14-40 65 15 300 18-63 53 19 200 40-73 56 12
1110316108602    150 52-75 59 15 100 36-79 75 12  70 18-77102  5  50 34-73148  8
1110416108602     30 91-60186 1020.0 67-49207 1910.0 46-31227 27 650 16-28 58 14
1110516108602    566 15-32 65 15 325 14-62 50 17 179 51-73 54 17 118 55-67 63 15
1110616108602     93 27-80 82  9  90 18-79 86  8  82 24-79 89 10  57 19-74137  5
1110716108602     45 45-71164 11  39 41-69174  9  33 85-62201 1325.6 75-56201 22
1110816108602   17.9 58-47214 1714.4 62-45233 1911.5 51-35212 2411.2 50-36210 24
1110916108602    9.8 44-29229 28
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 18 OCT 86 446 Z ECC SONDE: 4A2464
SURFACE CONDITIONS: PRESSURE 674.3 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.4 ORD;
O3 ORD ZERO 31.2, BKGND 31.5, CAL 65.2; O3 BKGND .046 MICROAMP; FLOW RATE 28.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 184.; SONDE TOTAL O3 180.; C.F. 1.024

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	674.3	2830	14.8	.022	37.9	.0000	-47.4			252.7		
1	656.0	2982	15.4	.023	38.8	.0003	-44.8			257.6	7.0	348.
2	641.0	3140	16.4	.026	39.6	.0006	-34.4	-39.4	61.6	271.1	7.0	348.
3	624.0	3328	15.3	.024	36.7	.0010	-33.1	-37.6	64.7	274.7	6.1	345.
4	608.0	3511	18.4	.030	44.0	.0013	-32.1	-35.7	71.5	277.8	4.1	346.
5	592.0	3699	15.8	.027	37.9	.0017	-32.4	-35.2	77.5	279.7	3.4	314.
6	576.0	3892	15.8	.027	37.9	.0020	-32.3	-35.7	72.5	282.0	2.9	298.
7	562.0	4065	15.4	.027	36.8	.0023	-32.4	-37.9	59.1	283.8	1.8	282.
8	547.0	4255	16.4	.030	39.3	.0026	-32.1	-37.9	57.6	286.4	1.5	261.
9	532.0	4451	18.6	.035	44.6	.0030	-32.3	-38.6	52.9	288.5	2.6	230.
10	517.0	4652	16.3	.031	39.1	.0034	-33.2	-39.0	56.6	289.7	4.0	215.
11	504.0	4830	14.0	.028	33.9	.0037	-34.4	-39.7	59.5	290.4	4.9	211.
12	490.0	5026	12.4	.025	30.2	.0040	-36.0	-40.9	61.3	290.8	5.3	212.
13	476.0	5226	12.7	.027	31.0	.0043	-37.1	-42.2	60.1	291.9	5.4	209.
14	463.0	5417	11.6	.025	28.5	.0046	-38.3	-44.6	52.2	292.7	5.4	203.
15	450.0	5612	12.7	.028	31.3	.0048	-39.8	-46.1	52.0	293.2	5.0	204.
16	437.0	5811	11.6	.026	28.8	.0051	-41.3			293.7	5.0	211.
17	425.0	5999	11.5	.027	28.8	.0054	-42.8			294.1	5.7	205.
18	413.0	6191	10.3	.025	26.1	.0056	-44.8			294.0	6.1	199.
19	400.0	6404	10.9	.027	27.8	.0059	-46.5			294.5	6.0	199.
20	389.0	6588	10.9	.028	27.9	.0061	-47.8			295.1	7.0	207.
21	377.0	6794	13.4	.036	34.5	.0064	-48.9			296.4	8.4	207.
22	366.0	6987	11.2	.030	29.1	.0067	-50.2			297.1	8.5	198.
23	355.0	7185	12.2	.034	31.6	.0070	-51.5			298.0	8.9	190.
24	344.0	7388	12.7	.037	33.3	.0073	-52.9			298.8	9.9	187.
25	333.0	7596	13.3	.040	35.2	.0076	-54.6			299.2	10.1	185.
26	322.0	7810	12.8	.040	34.0	.0080	-56.1			300.1	10.6	183.
27	313.0	7989	11.7	.037	31.2	.0083	-57.8			300.2	11.4	183.
28	303.0	8193	12.2	.040	32.8	.0086	-59.0			301.3	11.3	182.
29	294.0	8381	11.7	.040	31.6	.0088	-60.8			301.3	11.5	180.
30	284.0	8595	9.8	.035	26.9	.0091	-62.0			302.5	12.2	179.
31	275.0	8793	8.4	.031	23.0	.0094	-63.4			303.4	12.4	176.
32	267.0	8973	10.1	.038	28.1	.0096	-65.1			303.4	13.0	175.
33	258.0	9181	9.5	.037	26.7	.0099	-67.0			303.7	13.3	175.
34	249.0	9394	10.6	.043	29.9	.0101	-68.7			304.2	13.6	179.
35	240.0	9613	10.0	.042	28.6	.0104	-70.0			305.5	14.9	179.
36	231.0	9839	10.6	.046	30.3	.0108	-71.1			307.1	15.3	180.
37	223.0	10046	9.5	.043	27.3	.0110	-72.6			308.0	16.1	183.
38	215.0	10260	12.7	.059	36.8	.0114	-73.3			310.1	16.7	187.
39	207.0	10481	19.8	.095	57.6	.0118	-75.1			310.7	16.0	188.
40	200.0	10680	22.6	.113	65.8	.0124	-74.8			314.2	14.7	184.
41	193.9	10860	31.3	.162	90.9	.0131	-74.3			317.8	12.1	184.
42	186.6	11083	39.3	.211	114.4	.0141	-74.5			320.9	13.0	183.
43	179.7	11301	38.9	.217	113.8	.0153	-75.6			322.6	13.3	181.
44	173.0	11521	42.8	.247	124.9	.0165	-75.3			326.6	11.4	177.
45	166.5	11742	44.2	.266	129.6	.0178	-76.1			328.9	11.5	164.
46	160.5	11954	47.2	.294	138.0	.0192	-75.6			333.2	9.5	163.
47	154.6	12170	55.1	.356	160.8	.0207	-75.3			337.3	7.8	172.
48	148.8	12391	53.0	.356	154.9	.0223	-75.6			340.5	8.6	158.
49	143.3	12608	53.5	.373	156.5	.0239	-75.9			343.7	7.6	170.

STATION: SOUTH POLE LAUNCH DATE: 18 OCT 86 446 Z ECC SONDE: 4A2464

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	137.7	12838	53.2	.387	156.0	.0256	-75.9			347.7	7.1	177.
51	132.4	13064	55.6	.420	162.6	.0273	-75.6			352.1	6.4	157.
52	127.3	13291	54.8	.430	160.3	.0290	-75.9			355.6	4.4	168.
53	122.4	13517	55.0	.449	161.4	.0307	-76.4			358.6	5.5	175.
54	117.7	13742	49.2	.418	144.5	.0323	-76.7			362.1	7.4	169.
55	113.1	13971	50.6	.447	148.7	.0338	-76.7			366.3	6.6	168.
56	108.6	14204	64.6	.595	188.3	.0357	-76.1			371.6	4.6	200.
57	104.4	14431	68.3	.654	200.5	.0378	-76.4			375.3	5.7	225.
58	100.2	14667	68.1	.680	200.1	.0400	-76.7			379.2	6.7	222.
59	96.1	14906	68.1	.709	201.7	.0422	-78.3			380.4	7.1	214.
60	92.2	15142	68.1	.739	201.3	.0444	-77.8			386.1	7.3	198.
61	88.4	15383	69.7	.789	205.3	.0467	-76.9			392.4	6.6	185.
62	84.9	15615	73.1	.861	215.0	.0490	-76.9			397.0	6.5	188.
63	81.4	15856	64.6	.794	190.3	.0513	-76.9			401.8	7.5	190.
64	78.2	16087	67.1	.858	196.2	.0534	-75.9			408.7	8.9	184.
65	75.0	16328	63.8	.851	186.7	.0555	-75.9			413.6	7.5	191.
66	72.0	16564	61.7	.858	180.1	.0576	-75.3			419.6	5.8	209.
67	69.1	16801	61.3	.888	179.9	.0596	-76.1			422.8	8.5	200.
68	66.4	17031	51.5	.776	150.3	.0613	-75.6			428.8	10.1	196.
69	63.7	17271	47.5	.746	138.4	.0630	-75.1			435.1	9.0	204.
70	61.1	17512	44.1	.722	128.7	.0645	-75.1			440.3	7.7	218.
71	58.5	17765	43.5	.744	126.2	.0660	-73.8			448.7	8.3	220.
72	56.2	17999	39.2	.698	113.1	.0673	-73.0			455.5	11.1	209.
73	53.8	18254	40.8	.758	117.5	.0686	-73.0			461.2	11.7	200.
74	51.5	18510	41.2	.799	118.5	.0701	-72.6			468.2	9.8	200.
75	49.4	18755	44.0	.891	126.1	.0715	-71.4			476.6	9.7	214.
76	47.4	18999	43.1	.910	123.2	.0729	-71.1			482.8	11.5	208.
77	45.4	19254	45.5	1.001	129.8	.0744	-70.9			489.3	12.7	202.
78	43.5	19508	45.0	1.033	127.2	.0759	-68.9			500.3	12.2	212.
79	41.9	19732	50.7	1.210	142.4	.0773	-67.6			508.9	12.1	218.
80	40.2	19982	55.9	1.391	156.0	.0791	-66.3			518.1	11.7	214.
81	38.5	20244	61.4	1.596	171.0	.0811	-65.7			526.1	12.6	213.
82	36.9	20502	69.6	1.887	193.3	.0833	-65.1			534.0	13.0	215.
83	35.5	20738	78.2	2.204	215.3	.0855	-63.4			544.5	14.9	214.
84	34.2	20967	86.4	2.527	236.9	.0879	-62.4			552.8	15.6	206.
85	32.8	21225	88.7	2.704	242.2	.0908	-61.7			561.5	13.4	204.
86	31.4	21495	90.5	2.883	246.2	.0939	-60.9			570.5	13.1	208.
87	30.1	21758	88.8	2.950	239.6	.0969	-59.2			582.3	13.7	208.
88	28.7	22056	91.0	3.172	245.4	.1003	-59.0			590.7	14.8	215.
89	27.4	22347	87.7	3.199	234.6	.1036	-57.6			602.5	15.7	221.
90	26.3	22606	86.7	3.298	231.7	.1064	-57.1			611.0	16.3	221.
91	25.2	22877	83.3	3.304	220.5	.1092	-55.1			624.2	15.9	224.
92	24.2	23136	82.4	3.406	216.9	.1119	-53.8			635.2	15.7	226.
93	23.3	23380	80.3	3.445	210.0	.1143	-52.5			645.8	16.8	226.
94	22.4	23635	80.3	3.584	208.9	.1168	-51.1			657.3	16.9	227.
95	21.6	23872	78.3	3.627	202.3	.1191	-49.8			668.2	17.9	228.
96	21.0	24056	77.4	3.686	199.4	.1208	-48.9			676.3	20.0	219.
97	20.1	24344	74.3	3.699	190.7	.1234	-48.0			687.6	19.1	210.
98	19.3	24611	72.1	3.735	184.7	.1258	-47.8			696.1	14.7	217.
99	18.6	24855	70.8	3.804	180.7	.1279	-47.0			706.2	13.4	229.
100	17.9	25109	69.4	3.879	176.5	.1300	-45.9			717.2	15.8	225.
101	17.2	25375	69.9	4.066	176.7	.1322	-44.5			730.0	19.8	211.
102	16.5	25653	66.4	4.022	166.8	.1344	-43.7			741.4	19.1	205.
103	15.8	25944	65.9	4.174	165.4	.1367	-43.0			753.0	13.7	215.
104	15.2	26205	62.7	4.123	156.3	.1386	-41.4			766.4	13.0	234.

STATION: SOUTH POLE LAUNCH DATE: 18 OCT 86 446 Z ECC SONDE: 4A2464

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	14.7	26432	60.4	4.110	149.5	.1403	-39.9			778.8	16.6	237.
106	14.0	26766	61.4	4.389	150.8	.1426	-38.1			795.7	19.0	232.
107	13.5	27016	55.4	4.104	136.0	.1443	-37.7			805.4	21.3	223.
108	12.9	27329	51.7	4.009	126.6	.1462	-37.3			817.4	21.7	222.
109	12.3	27658	51.6	4.196	126.4	.1482	-37.1			829.5	22.5	229.
110	11.8	27945	49.4	4.183	120.4	.1498	-36.7			840.8	23.3	227.
111	11.4	28184	48.1	4.222	117.5	.1511	-36.3			850.6	20.3	221.
112	10.9	28495	46.3	4.246	112.4	.1528	-35.5			864.5	19.3	216.
113	10.5	28755	43.7	4.164	106.1	.1541	-34.9			875.7	17.2	218.
114	10.2	28957	41.5	4.066	100.4	.1551	-34.3			885.5	18.9	214.
115	9.8	29223	39.6	4.036	95.2	.1563	-33.1			899.6	20.5	205.
116	9.5	29434	36.6	3.836	87.3	.1572	-31.7			912.4	13.6	199.
117	9.3	29645	33.2	3.587	78.7	.1580	-30.3			925.7	9.1	202.
118	9.0	29856	32.4	3.603	76.5	.1588	-29.1			938.2	13.3	231.
119	8.7	30058	29.8	3.413	70.1	.1595	-27.5			951.9	20.0	241.
120	8.5	30249	30.4	3.578	71.6	.1601	-27.9			957.6	25.1	237.
121	8.3	30385	28.9	3.463	68.0	.1606	-27.8			963.4	28.4	232.
122	8.2	30524	30.2	3.693	71.1	.1610	-27.2			970.8	27.4	225.
123	8.1	30639	29.3	3.638	69.0	.1614	-28.6			970.0	26.3	218.
124	7.9	30737	29.4	3.701	69.4	.1617	-28.7			973.3	29.3	214.
125	7.9	30800	27.9	3.539	65.5	.1619	-27.8			979.5	29.3	214.

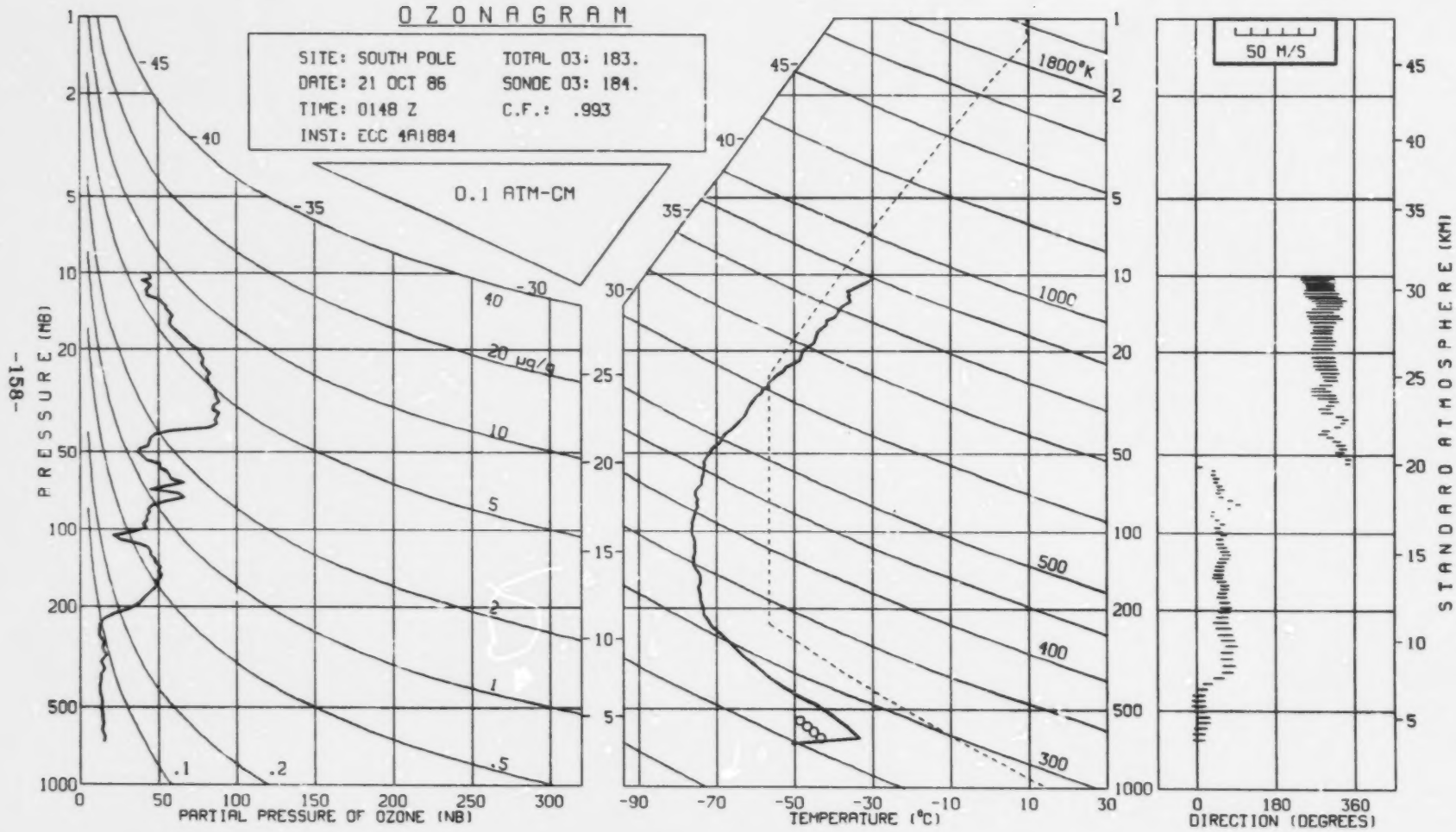
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
16.1	11.5	35.9	61.9	56.1	78.6	47.9	999.9

CODED SONDE DATA - WOOC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110118108605   00184   991.024   ECC   TOTAL O3 FROM SONDE DATA  180
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110218108605    674 15-47        500 14-35211   5 300 12-60181 11 200 23-75184 15
1110318108605    150 53-76161   8 100 68-77222   7  70 61-76203   8  50 43-72210 10
1110418108605     30 89-59208 1420.0 74-48211 1910.0 41-34209 20 656 15-45348  7
1110518108605    641 16-34348   7 624 15-33345   6 532 19-32230   3 249 11-69179 14
1110618108605    223 10-73183 16 187 39-75183 13 113 51-77168   7 109 65-76200  5
1110718108605     96 68-78214   7  85 73-77188   7  56 39-73209 11  45 45-71202 13
1110818108605     39 61-66213 13  34 86-62206 1626.3 87-57221 1615.8 66-43215 14
1110918108605   14.0 61-38232 19 8.7 30-28241 20 7.9 28-28214 29
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 21 OCT 86 148 Z ECC SONDE: 4A1884
SURFACE CONDITIONS: PRESSURE 680.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.7 ORD;
O3 ORD ZERO 32.5, BKGND 32.8, CAL 70.1; O3 BKGND .042 MICROAMP; FLOW RATE 26.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 183.; SONDE TOTAL O3 184.; C.F. .993

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	680.7	2800	14.9	.022	38.6	.0000	-51.1			247.6		
1	646.0	3153	15.7	.024	37.7	.0006	-33.7	-43.6	36.8	271.3	7.9	4.
2	613.0	3519	13.8	.023	33.5	.0012	-35.3	-45.3	35.7	273.6	7.9	4.
3	584.0	3855	14.8	.025	36.1	.0018	-37.0	-47.1	35.0	275.3	8.1	8.
4	556.0	4193	14.3	.026	35.2	.0024	-38.9	-48.9	34.5	277.0	8.3	15.
5	530.0	4520	14.2	.027	35.3	.0029	-40.7			278.7	7.8	15.
6	504.0	4861	13.3	.026	33.5	.0034	-42.7			280.4	8.2	8.
7	479.0	5202	13.9	.029	35.2	.0040	-44.9			281.7	9.0	4.
8	454.0	5557	13.4	.030	34.5	.0046	-48.0			282.2	8.4	3.
9	430.0	5913	12.5	.029	32.5	.0051	-50.3			283.6	7.6	4.
10	407.0	6269	12.6	.031	33.0	.0057	-52.8			284.9	6.8	12.
11	384.0	6642	13.0	.034	34.4	.0062	-55.2			286.5	6.2	24.
12	365.0	6964	13.1	.036	35.0	.0068	-57.1			288.2	6.5	50.
13	345.0	7319	15.7	.045	42.3	.0074	-58.8			290.6	7.3	70.
14	326.0	7672	13.0	.040	35.5	.0081	-60.9			292.4	8.0	74.
15	307.0	8043	16.6	.054	45.6	.0088	-63.1			294.3	8.2	68.
16	289.0	8413	13.9	.048	38.5	.0095	-64.9			296.9	7.4	69.
17	274.0	8736	14.9	.054	41.6	.0101	-66.5			299.1	7.8	79.
18	260.0	9052	12.2	.047	34.4	.0106	-68.0			301.5	9.0	71.
19	247.0	9359	12.1	.049	34.5	.0111	-69.5			303.7	9.4	65.
20	234.0	9679	12.6	.054	36.1	.0117	-71.6			305.3	9.7	61.
21	223.0	9962	14.9	.067	42.9	.0122	-72.3			308.4	9.5	55.
22	212.0	10258	22.3	.105	64.6	.0129	-73.5			311.0	7.8	58.
23	203.0	10511	31.8	.157	92.1	.0139	-73.5			314.9	7.2	63.
24	195.7	10725	37.1	.190	107.5	.0149	-73.8			317.8	6.7	67.
25	186.9	10993	40.4	.216	117.3	.0163	-74.3			321.2	6.3	64.
26	178.4	11264	43.7	.245	126.7	.0178	-74.3			325.5	6.1	57.
27	172.0	11476	46.8	.272	135.9	.0191	-74.5			328.5	5.5	59.
28	166.3	11671	48.8	.293	141.8	.0204	-74.8			331.2	5.3	64.
29	160.8	11866	48.2	.300	139.9	.0217	-74.3			335.3	5.4	65.
30	155.5	12061	51.3	.330	149.1	.0230	-74.3			338.5	5.8	57.
31	150.2	12263	51.9	.346	151.0	.0244	-74.3			341.9	6.5	48.
32	145.1	12463	50.0	.344	145.4	.0258	-74.8			344.4	6.4	50.
33	139.8	12678	51.2	.367	149.8	.0273	-75.6			346.7	5.9	52.
34	134.7	12892	48.0	.356	140.5	.0287	-76.1			349.4	5.6	53.
35	130.0	13096	47.6	.366	139.3	.0301	-76.1			353.0	5.8	57.
36	125.4	13303	44.8	.357	131.2	.0314	-76.1			356.7	6.1	63.
37	121.2	13499	45.0	.371	131.8	.0326	-75.8			360.6	5.7	68.
38	117.3	13688	43.5	.371	127.2	.0337	-75.8			364.0	5.8	64.
39	113.4	13883	37.3	.329	109.2	.0348	-75.8			367.5	5.8	58.
40	109.5	14085	25.3	.231	74.2	.0357	-75.8			371.2	4.9	53.
41	105.7	14289	21.6	.204	63.3	.0363	-76.1			374.5	4.0	53.
42	102.0	14494	34.5	.338	101.4	.0371	-76.6			377.3	4.0	62.
43	98.5	14694	42.0	.426	123.3	.0382	-76.6			381.1	3.9	52.
44	95.4	14878	40.4	.424	118.5	.0392	-76.4			385.1	3.5	47.
45	92.3	15068	42.7	.463	125.4	.0403	-76.4			388.8	3.0	59.
46	89.1	15271	42.6	.478	124.7	.0415	-76.1			393.2	2.3	47.
47	86.0	15475	44.1	.513	129.1	.0427	-75.8			397.8	1.9	35.
48	83.2	15666	43.7	.525	127.5	.0438	-75.6			402.1	1.7	38.
49	80.4	15864	46.4	.577	135.1	.0451	-75.0			407.1	1.7	74.

STATION: SOUTH POLE LAUNCH DATE: 21 OCT 86 148 Z ECC SONDE: 4A1884

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	77.7	16062	55.4	.713	161.6	.0464	-75.3			410.6	2.9	95.
51	75.1	16259	66.1	.881	192.8	.0481	-75.0			415.1	3.4	77.
52	72.6	16455	63.1	.869	184.3	.0498	-75.6			418.1	2.6	56.
53	70.2	16649	45.7	.651	133.5	.0512	-75.6			422.1	3.0	50.
54	68.0	16833	54.7	.805	159.3	.0525	-75.0			427.1	4.5	56.
55	65.9	17015	65.6	.996	190.5	.0540	-74.0			433.2	3.3	52.
56	63.9	17194	58.2	.911	168.7	.0555	-74.0			437.0	2.2	44.
57	61.9	17379	57.0	.921	165.2	.0569	-73.8			441.5	3.2	45.
58	59.9	17570	55.0	.919	159.0	.0584	-73.5			446.2	2.3	38.
59	58.0	17758	50.6	.873	146.6	.0597	-73.5			450.4	1.9	39.
60	56.0	17963	50.6	.904	146.4	.0611	-73.3			455.5	3.0	7.
61	54.1	18164	42.3	.782	122.5	.0624	-73.5			459.4	3.0	345.
62	52.2	18373	39.6	.759	114.1	.0635	-72.8			465.9	3.7	346.
63	50.3	18591	37.2	.740	106.9	.0647	-72.0			472.5	5.6	333.
64	48.6	18793	37.9	.781	108.6	.0657	-71.6			478.3	5.3	327.
65	47.0	18990	43.3	.921	123.5	.0668	-70.9			484.6	4.7	335.
66	45.4	19195	44.1	.971	124.9	.0680	-69.5			492.7	5.6	329.
67	43.8	19409	45.1	1.029	127.5	.0692	-68.9			499.4	5.2	320.
68	42.3	19617	48.2	1.139	135.8	.0705	-68.4			505.5	4.6	305.
69	41.0	19804	57.8	1.410	162.5	.0718	-67.6			512.1	5.8	289.
70	39.7	19998	82.6	2.081	230.5	.0736	-66.1			520.5	5.3	296.
71	38.3	20216	87.5	2.284	243.1	.0760	-65.3			527.9	3.8	322.
72	37.0	20426	86.1	2.327	238.0	.0784	-64.3			535.7	3.0	335.
73	35.9	20610	87.5	2.437	240.9	.0804	-63.5			542.4	3.8	339.
74	34.8	20801	88.7	2.548	243.5	.0826	-62.8			549.2	4.9	327.
75	33.8	20980	84.7	2.506	232.1	.0846	-62.4			554.8	7.4	299.
76	32.7	21184	85.3	2.609	233.3	.0868	-62.0			561.0	7.7	292.
77	31.6	21395	89.1	2.819	242.7	.0892	-61.3			568.5	4.9	305.
78	30.5	21615	87.5	2.869	237.5	.0916	-60.5			576.3	6.5	313.
79	29.8	21759	86.4	2.899	234.2	.0932	-60.0			581.6	12.4	298.
80	28.9	21951	86.4	2.990	232.6	.0953	-58.6			590.6	15.5	291.
81	28.0	22149	84.9	3.033	228.4	.0975	-58.4			596.4	13.0	284.
82	27.2	22331	82.9	3.049	221.3	.0994	-56.9			605.7	9.7	277.
83	26.3	22544	82.0	3.119	219.1	.1016	-56.9			611.6	8.2	296.
84	25.4	22765	81.0	3.190	215.1	.1038	-55.6			621.5	8.4	307.
85	24.6	22969	83.0	3.375	219.4	.1059	-54.7			629.5	8.9	304.
86	23.8	23181	80.5	3.384	211.3	.1080	-53.1			640.2	11.5	305.
87	23.0	23401	78.4	3.407	205.0	.1102	-52.4			648.8	13.8	297.
88	22.3	23601	78.1	3.500	202.6	.1121	-50.7			659.6	14.4	293.
89	21.5	23840	78.8	3.663	202.8	.1143	-48.8			671.9	14.6	293.
90	20.7	24089	76.9	3.713	197.6	.1166	-48.4			680.6	14.9	290.
91	20.0	24315	75.9	3.794	194.7	.1187	-48.1			688.2	14.4	287.
92	19.3	24550	71.7	3.715	182.8	.1208	-46.8			699.3	13.5	286.
93	18.7	24760	68.8	3.680	174.5	.1225	-45.3			710.2	13.9	292.
94	18.0	25014	66.4	3.691	167.8	.1246	-44.8			719.7	13.8	294.
95	17.4	25240	63.9	3.670	161.4	.1263	-44.5			727.7	12.6	287.
96	16.8	25475	61.0	3.630	153.7	.1281	-44.2			735.9	13.6	285.
97	16.3	25678	58.4	3.583	146.6	.1295	-43.1			745.9	12.8	289.
98	15.8	25888	57.3	3.627	143.2	.1309	-42.0			756.3	12.5	291.
99	15.2	26150	57.4	3.776	143.4	.1327	-42.0			764.7	16.5	289.
100	14.7	26377	59.0	4.013	146.0	.1342	-39.9			778.9	21.6	295.
101	14.3	26565	57.5	4.021	142.0	.1355	-39.3			786.9	20.4	290.
102	13.8	26808	54.9	3.980	135.5	.1370	-38.9			796.4	17.5	282.
103	13.4	27010	55.1	4.113	135.5	.1383	-38.3			805.4	18.0	295.
104	13.0	27219	52.1	4.011	127.5	.1396	-37.8			816.6	16.6	304.

STATION: SOUTH POLE LAUNCH DATE: 21 OCT 86 148 Z ECC SONDE: 4A1884

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	12.7	27380	51.4	4.051	125.1	.1405	-35.8			826.3	17.1	303.
106	12.4	27546	46.9	3.780	114.1	.1415	-36.1			831.0	22.1	303.
107	12.1	27715	42.6	3.521	104.0	.1423	-36.5			835.4	21.1	294.
108	11.9	27830	42.7	3.589	103.9	.1429	-36.0			841.3	20.5	285.
109	11.6	28007	42.3	3.647	103.4	.1438	-36.6			845.1	22.4	285.
110	11.3	28189	44.4	3.929	107.6	.1447	-35.0			857.2	19.2	282.
111	11.1	28313	45.3	4.080	109.2	.1453	-34.0			865.5	17.1	282.
112	10.9	28440	43.3	3.972	104.1	.1459	-32.9			873.8	17.8	283.
113	10.7	28570	40.1	3.750	96.0	.1465	-31.8			882.3	18.2	281.
114	10.5	28703	44.9	4.275	107.0	.1472	-30.8			891.0	21.2	280.
115	10.3	28839	45.0	4.368	106.9	.1478	-30.4			897.4	21.7	278.
116	10.2	28908	44.6	4.372	105.9	.1482	-30.2			900.4	20.3	277.
117	10.1	28978	43.9	4.346	104.3	.1485	-30.2			902.9	20.3	277.

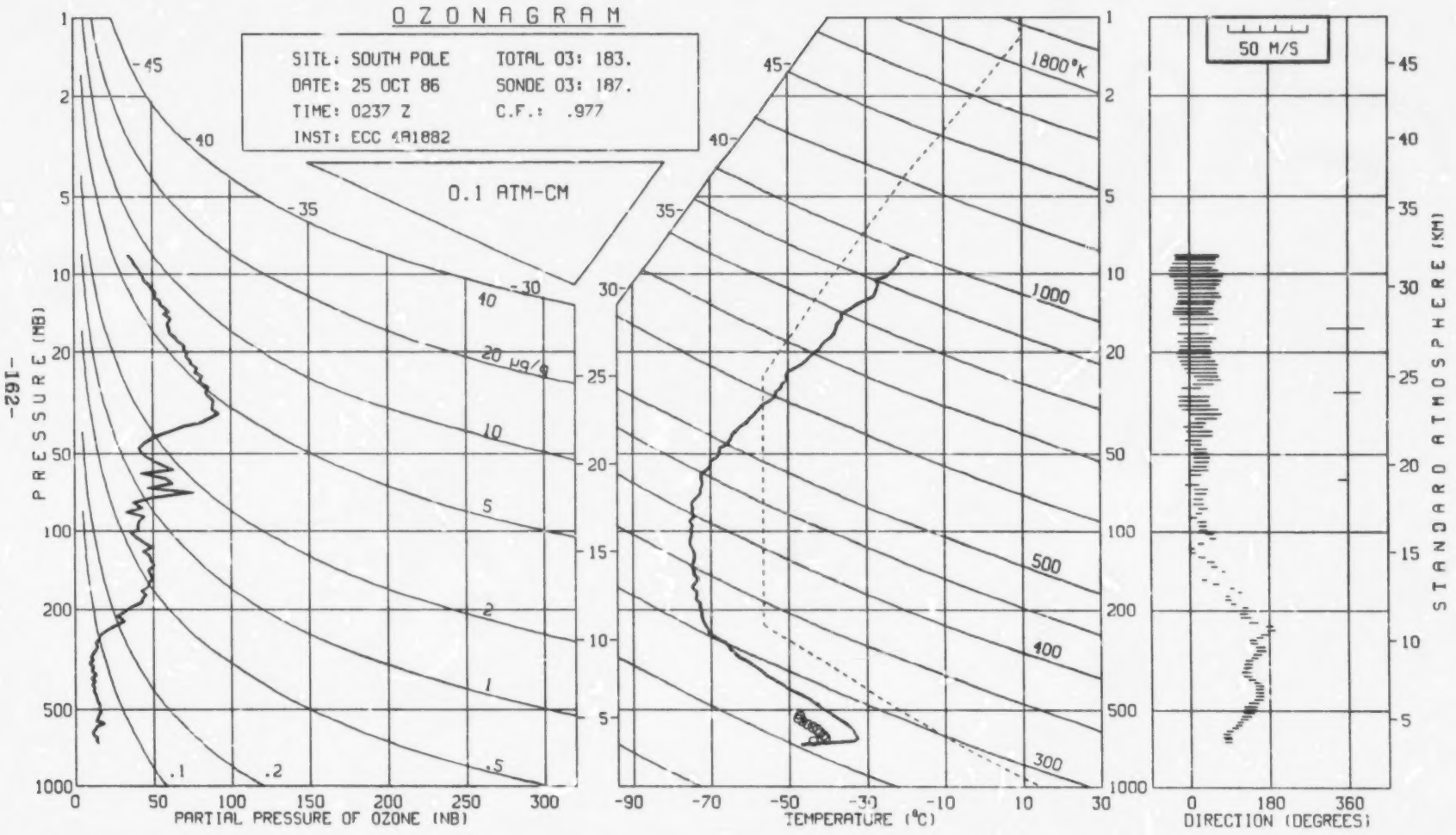
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.5	13.7	37.4	45.7	61.2	75.7	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG    LSXXX XP T CORR   COMMENTS
1110121108602    00183   99 .993   ECC     TOTAL O3 FROM SONDE DATA  184
ISNNNYYMMJJGG    PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110221108602     681 15-51       500 13-43  7  8 300 16-64 68  8 200 34-74 65  7
1110321108602     150 52-74 48  6 100 39-77 56  4  70 46-76 51  3  50 37-72332  6
1110421108602      30 87-60302 1120.0 76-48287 14 646 16-34  4  8 234 13-72 61 10
1110521108602     117 43-76 64  6 106 22-76 53  4  80 46-75 74  2  75 66-75 77  3
1110621108602      73 63-76 56  3  66 66-74 52  3  42 48-68305  5  41 58-68289  6
1110721108602      40 83-66296  5  38 87-65322  416.3 58-43289 1312.7 51-36303 17
1110821108602    11.6 42-37285 2210.1 44-30277 20
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 25 OCT 86 237 Z ECC SONDE. 4A1882
SURFACE CONDITIONS: PRESSURE 678.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD, HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 75.0 ORD;
O3 ORD ZERO 34.5, BKGND 35.0, CAL 72.1; O3 BKGND .070 MICROAMP; FLOW RATE 28.8 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 183.; SONDE TOTAL O3 187.; C.F. .977

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	678.0	2800	14.7	.022	37.5	.0000	-47.3			252.4		
1	658.0	3004	13.2	.020	31.9	.0003	-33.7	-44.2	34.4	269.8	4.9	85.
2	642.0	3177	13.7	.021	32.7	.0006	-32.7	-41.1	43.5	273.0	4.9	85.
3	628.0	3332	11.2	.018	27.2	.0008	-33.1	-41.6	42.8	274.2	5.5	81.
4	612.0	3513	10.8	.018	26.2	.0010	-33.6	-42.5	40.9	275.6	4.9	81.
5	597.0	3687	12.3	.021	29.7	.0013	-33.9	-43.2	38.9	277.3	4.1	88.
6	582.0	3865	13.5	.023	32.6	.0015	-34.7	-44.4	37.0	278.4	3.6	100.
7	569.0	4022	17.6	.031	42.7	.0018	-35.6	-45.7	35.3	279.1	3.8	108.
8	554.0	4207	12.9	.023	31.5	.0021	-36.8	-47.0	34.6	279.8	3.9	112.
9	540.0	4383	14.0	.026	34.3	.0024	-37.9	-48.0	34.2	280.6	5.0	121.
10	525.0	4576	14.8	.028	36.4	.0027	-39.0	-47.6	40.3	281.5	6.3	127.
11	510.0	4774	16.1	.032	40.0	.0031	-40.1			282.6	6.5	132.
12	496.0	4963	14.6	.029	36.2	.0034	-41.7			282.8	7.5	136.
13	481.0	5170	15.7	.033	39.4	.0038	-42.7			284.1	8.1	136.
14	466.0	5383	14.1	.030	35.5	.0041	-44.1			284.9	6.9	143.
15	451.0	5601	13.6	.030	34.4	.0045	-45.4			286.0	5.7	154.
16	438.0	5795	13.1	.030	33.4	.0048	-47.0			286.4	5.5	157.
17	424.0	6009	11.6	.027	30.1	.0051	-48.9			286.6	5.5	157.
18	412.0	6196	12.0	.029	31.1	.0054	-50.7			286.6	5.3	157.
19	400.0	6388	10.6	.027	27.7	.0056	-51.9			287.5	5.2	157.
20	389.0	6568	12.6	.032	33.0	.0059	-53.5			287.7	4.6	152.
21	380.0	6718	10.2	.027	27.0	.0061	-54.4			288.4	4.4	139.
22	368.0	6922	13.3	.036	35.3	.0064	-56.1			288.8	6.1	131.
23	353.0	7185	10.5	.030	27.9	.0068	-57.3			290.7	6.5	128.
24	341.0	7402	11.3	.033	30.4	.0071	-58.8			291.5	5.3	130.
25	329.0	7626	9.0	027	24.2	.0074	-60.2			292.6	5.5	132.
26	318.0	7837	11.2	.035	30.7	.0077	-61.7			293.4	5.2	134.
27	309.0	8014	9.9	.032	27.1	.0079	-63.2			293.7	4.7	146.
28	300.0	8195	11.2	.037	31.0	.0081	-64.1			294.8	5.5	153.
29	289.0	8423	13.1	.045	36.2	.0085	-65.1			296.6	6.0	161.
30	280.0	8615	14.0	.050	38.9	.0088	-65.7			298.4	5.9	159.
31	270.0	8835	13.2	.049	36.9	.0092	-66.5			300.4	5.2	144.
32	262.0	9016	15.0	.057	42.4	.0096	-68.0			300.8	4.4	143.
33	254.0	9201	15.4	.061	43.8	.0099	-69.3			301.5	4.4	158.
34	247.0	9367	17.7	.072	50.6	.0103	-70.7			301.9	4.9	169.
35	238.0	9587	21.7	.091	62.0	.0109	-70.9			304.8	5.1	184.
36	230.0	9789	26.6	.116	76.0	.0115	-71.6			306.7	4.5	180.
37	222.0	9997	31.2	.140	89.6	.0123	-72.1			309.1	5.9	144.
38	213.0	10240	27.1	.127	78.0	.0133	-72.6			312.1	6.6	126.
39	206.0	10436	30.5	.148	87.6	.0140	-72.6			315.1	5.3	121.
40	195.4	10746	36.0	.184	103.7	.0154	-73.0			319.1	3.2	125.
41	188.8	10947	42.4	.225	122.2	.0165	-73.0			322.2	2.8	98.
42	182.4	11148	43.2	.237	125.2	.0177	-74.0			323.8	3.8	86.
43	176.1	11353	45.5	.259	131.9	.0189	-73.8			327.5	2.7	85.
44	170.0	11558	42.6	.251	123.3	.0201	-73.8			330.8	2.1	113.
45	164.0	11767	46.7	.285	136.0	.0214	-75.1			332.1	2.4	95.
46	158.2	11976	47.2	.298	136.9	.0227	-74.3			336.8	3.8	59.
47	152.5	12190	49.6	.325	143.3	.0241	-73.3			342.1	3.2	32.
48	146.9	12408	48.3	.329	140.4	.0255	-74.5			343.6	.8	360.
49	141.5	12625	47.0	.332	136.6	.0270	-74.5			347.3	1.8	76.

STATION: SOUTH POLE LAUNCH DATE: 25 OCT 86 237 Z ECC SONDE: 4A1882

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	136.2	12846	50.7	.372	147.8	.0284	-75.1			350.2	3.9	55.
51	130.9	13076	48.7	.372	141.4	.0300	-74.5			355.1	4.6	47.
52	125.8	13307	47.9	.381	138.8	.0315	-74.3			359.6	4.4	27.
53	120.8	13543	43.7	.362	127.0	.0330	-74.5			363.3	3.9	5.
54	115.9	13783	49.1	.424	143.1	.0345	-75.1			366.7	3.5	3.
55	111.2	14022	43.8	.394	127.8	.0360	-75.6			370.1	3.3	24.
56	106.5	14272	39.3	.369	114.6	.0374	-75.3			375.2	4.0	51.
57	101.8	14533	35.9	.352	104.3	.0388	-75.1			380.5	4.7	44.
58	98.9	14700	40.6	.411	118.5	.0396	-75.3			383.2	4.4	30.
59	95.0	14933	40.3	.425	117.3	.0409	-74.8			388.6	4.8	29.
60	91.2	15169	41.1	.451	120.3	.0422	-75.6			391.6	5.5	27.
61	87.5	15409	44.4	.507	128.9	.0436	-74.5			398.4	4.4	7.
62	83.9	15653	33.4	.398	97.4	.0449	-74.8			402.7	3.6	20.
63	80.5	15893	42.7	.530	124.3	.0462	-74.8			407.5	5.8	29.
64	77.2	16136	37.5	.486	109.5	.0475	-75.1			411.8	6.4	19.
65	74.0	16382	49.4	.668	143.3	.0489	-74.0			419.0	5.7	15.
66	71.0	16624	74.0	1.042	213.1	.0509	-72.8			426.6	7.3	24.
67	68.0	16877	48.0	.705	138.1	.0530	-72.8			431.9	9.2	25.
68	65.2	17124	62.3	.956	179.2	.0549	-72.3			438.2	9.2	5.
69	62.5	17372	58.1	.930	167.5	.0569	-72.6			443.0	5.8	348.
70	59.9	17621	43.8	.731	125.9	.0586	-72.6			448.4	7.0	13.
71	57.7	17841	62.4	1.082	178.3	.0601	-71.1			456.4	10.9	23.
72	55.5	18071	56.3	1.014	160.0	.0620	-70.2			463.6	9.0	23.
73	53.4	18300	50.5	.946	143.8	.0636	-70.2			468.7	9.3	26.
74	51.3	18539	45.4	.886	128.0	.0651	-68.4			478.3	10.5	27.
75	49.5	18753	42.7	.863	120.1	.0663	-68.0			484.2	9.7	21.
76	47.6	18988	41.0	.862	115.4	.0676	-67.8			490.2	8.0	24.
77	45.8	19220	43.9	.958	122.3	.0689	-65.9			500.1	7.1	15.
78	44.1	19450	48.4	1.097	134.3	.0703	-65.1			507.5	10.2	8.
79	42.4	19689	54.2	1.279	150.3	.0719	-64.7			514.2	14.9	25.
80	40.9	19909	62.9	1.538	173.2	.0736	-63.6			522.5	16.4	22.
81	39.4	20138	70.0	1.775	191.9	.0755	-62.6			530.5	13.0	8.
82	38.0	20362	81.2	2.137	220.9	.0777	-60.9			540.2	10.5	17.
83	36.5	20612	86.7	2.374	234.7	.0803	-60.0			548.8	13.9	37.
84	35.1	20856	92.0	2.622	247.9	.0831	-58.8			558.2	20.1	37.
85	33.6	21130	87.8	2.614	235.7	.0862	-57.9			567.5	23.3	24.
86	32.2	21398	88.3	2.743	235.9	.0892	-57.1			576.7	20.4	10.
87	30.8	21680	88.9	2.887	235.3	.0923	-54.9			589.9	18.6	9.
88	29.6	21934	85.6	2.891	225.0	.0950	-53.5			600.6	20.4	9.
89	28.4	22200	84.0	2.959	220.8	.0978	-53.5			607.7	17.4	359.
90	27.3	22454	85.5	3.131	223.3	.1004	-52.1			618.6	12.4	3.
91	26.3	22695	80.9	3.076	211.0	.1029	-51.8			626.1	13.0	31.
92	25.4	22921	80.4	3.166	208.6	.1051	-50.5			635.8	15.0	44.
93	24.6	23129	81.5	3.312	211.4	.1071	-50.7			641.2	15.4	38.
94	23.8	23344	77.0	3.235	199.5	.1092	-50.4			648.2	19.0	28.
95	23.0	23568	78.5	3.411	201.7	.1113	-48.6			659.9	20.8	24.
96	22.2	23801	74.5	3.358	190.0	.1134	-46.8			671.8	23.2	22.
97	21.5	24013	74.2	3.449	188.3	.1153	-45.7			681.4	22.8	18.
98	20.8	24234	71.4	3.434	180.5	.1172	-44.7			690.9	21.5	10.
99	20.1	24463	72.1	3.587	181.2	.1191	-43.5			701.2	21.9	10.
100	19.5	24632	70.1	3.574	175.2	.1206	-42.4			709.7	20.8	12.
101	18.9	24878	70.1	3.712	174.9	.1226	-41.7			719.3	19.4	12.
102	18.2	25134	66.3	3.645	164.9	.1246	-40.9			729.7	21.9	12.
103	17.6	25362	64.5	3.664	159.3	.1263	-39.4			741.5	20.5	24.
104	16.9	25640	60.8	3.596	149.6	.1283	-38.4			753.2	20.1	7.

STATION: SOUTH POLE LAUNCH DATE: 25 OCT 86 237 Z ECC SONDE: 4A1882

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	16.2	25931	60.7	3.745	148.8	.1304	-37.9			764.1	23.9	355.
106	15.6	26191	59.5	3.814	145.9	.1322	-37.6			773.3	21.0	15.
107	14.9	26508	61.7	4.144	150.8	.1344	-36.5			787.1	24.7	21.
108	14.3	26792	57.3	4.010	140.0	.1363	-36.5			796.4	25.8	8.
109	14.0	26939	60.7	4.334	147.2	.1373	-35.5			804.8	22.6	2.
110	13.6	27141	57.9	4.260	139.9	.1387	-33.9			817.0	24.4	9.
111	13.1	27404	54.5	4.162	130.7	.1403	-32.3			831.3	23.9	12.
112	12.8	27567	55.0	4.297	131.0	.1413	-30.8			841.9	23.8	16.
113	12.3	27851	50.9	4.138	120.0	.1430	-28.3			860.3	27.7	23.
114	11.9	28088	52.0	4.368	122.4	.1443	-27.9			869.9	25.8	20.
115	11.4	28396	49.0	4.302	115.2	.1460	-27.4			882.5	26.1	12.
116	11.0	28653	47.8	4.343	112.1	.1474	-27.0			893.0	28.6	16.
117	10.6	28919	44.6	4.212	105.1	.1487	-27.9			899.1	29.7	18.
118	10.2	29197	43.9	4.301	102.1	.1501	-24.7			920.8	33.7	15.
119	9.7	29601	41.6	4.313	96.2	.1519	-23.4			940.5	31.6	9.
120	9.4	29777	40.4	4.294	93.2	.1527	-22.6			950.0	26.8	4.
121	9.0	30079	38.2	4.226	87.8	.1540	-21.9			963.8	27.3	9.
122	8.7	30361	37.1	4.267	85.2	.1551	-21.4			976.5	25.7	12.
123	8.6	30429	36.1	4.194	82.7	.1554	-20.3			983.3	24.4	13.
124	8.5	30550	35.1	4.136	79.6	.1559	-19.3			992.1	27.6	17.
125	8.4	30620	34.6	4.117	78.7	.1561	-19.4			994.3	28.2	16.
126	8.4	30646	34.7	4.144	78.9	.1562	-19.3			995.8	28.2	16.

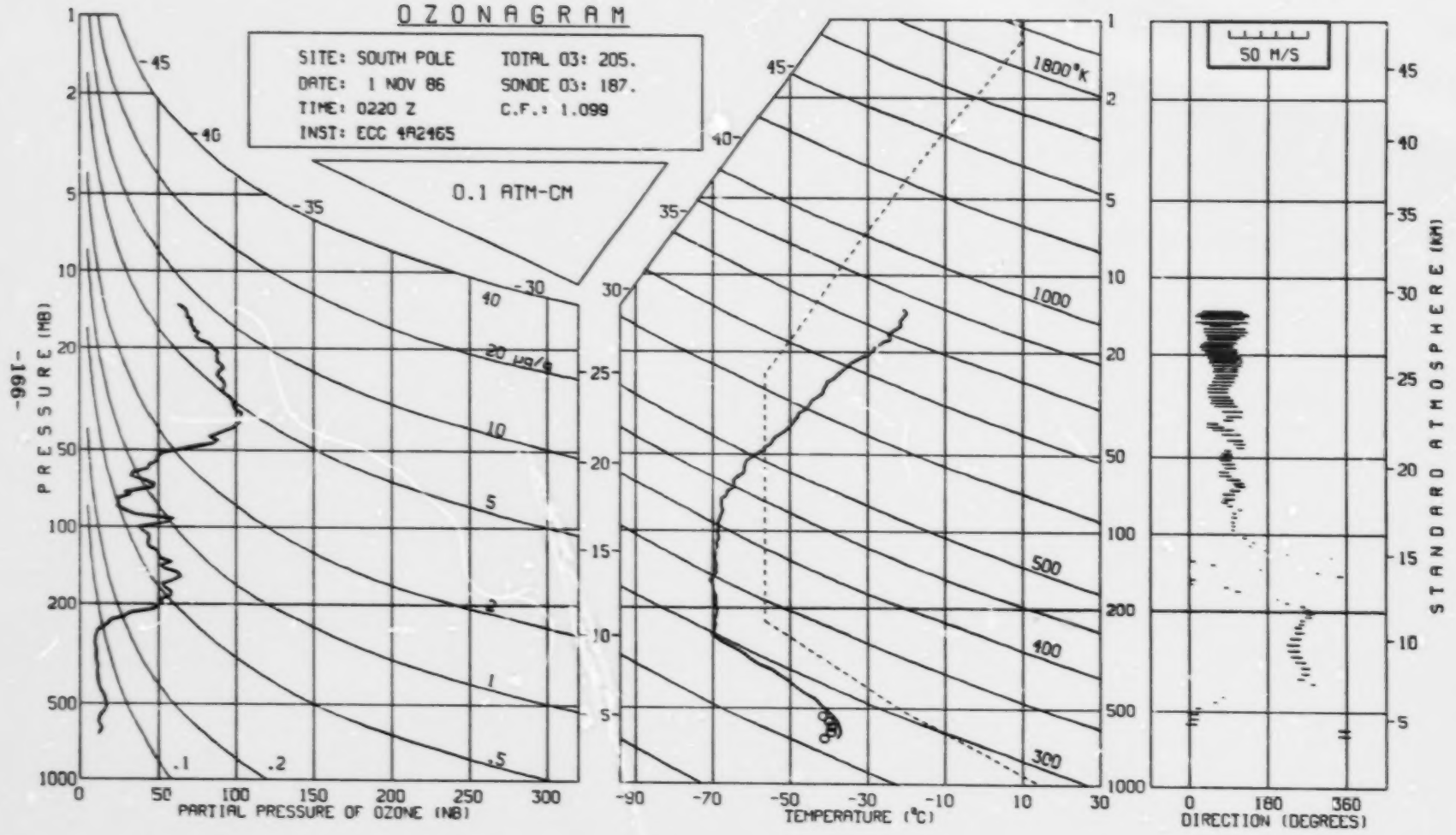
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.7	12.5	39.5	45.9	62.9	74.6	49.6	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110125108603   00183   99 .977   ECC    TOTAL O3 FROM SONDE DATA  187
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110225108603    678 15-47       500 15-41135  7 300 11-64153  6 200 34-73123  4
1110325108603    150 49-74177  2 100 39-75 35  5  70 65-73 24  8  50 43-68 23 10
1110425108603     30 87-54  9 2020.0 72-43 10 2210.0 43-24 13 33 658 13-34 85  5
1110525108603    642 14-33 85  5 247 18-71169  5 164 47-75 95  2 116 49-75  3  4
1110625108603     88 44-75  7  4  84 33-75 20  4  81 43-75 29  6  77 38-75 19  6
1110725108603     74 49-74 19  6  71 74-73 24  7  68 48-73 25  9  65 62-72  5  9
1110825108603     63 58-73348  6  60 44-73 13  7  58 62-71 23 11  46 44-66 15  7
1110925108603     35 92-59 37 2023.8 77-50 28 1914.3 57-37  8 2612.3 51-28 23 28
1111025108603   10.6 45-28 18 30 8.4 35-19 16 28
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 1 NOV 86 220 Z ECC SONDE: 4A2465
SURFACE CONDITIONS: PRESSURE 666.5 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.4 ORD;
O3 ORD ZERO 32.8, BKGND 33.0, CAL 70.0; O3 BKGND .028 MICROAMP; FLOW RATE 28.9 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 205.; SONDE TOTAL O3 187.; C.F. 1.099

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	667.0	2797	11.9	.018	29.2	.0000	-38.1	-41.4	72.9	263.8		
1	628.0	3212	14.1	.022	34.5	.0006	-37.1	-39.7	78.1	269.7	7.5	355.
2	594.0	3596	12.0	.020	29.2	.0012	-37.6	-39.6	82.9	273.3	7.5	355.
3	564.0	3953	12.5	.022	30.7	.0017	-38.1	-40.3	81.7	276.8	6.7	3.
4	538.0	4277	14.9	.028	36.8	.0022	-39.2	-41.8	78.3	279.3	6.2	10.
5	512.0	4615	17.0	.033	42.4	.0028	-40.6			281.6	5.2	10.
6	485.0	4982	16.4	.034	40.9	.0035	-42.4			283.8	3.4	20.
7	460.0	5338	15.3	.033	38.6	.0042	-43.7			286.5	2.2	58.
8	439.0	5650	13.1	.030	33.4	.0047	-46.4			286.9	1.3	76.
9	417.0	5989	11.9	.028	30.6	.0052	-48.4			288.5	1.2	358.
10	391.0	6410	11.4	.029	29.6	.0058	-50.8			290.7	2.3	283.
11	373.0	6715	11.0	.029	28.9	.0062	-52.9			292.0	4.2	256.
12	354.0	7050	11.5	.033	30.6	.0067	-55.1			293.4	4.8	266.
13	337.0	7362	10.3	.031	27.7	.0071	-58.3			293.2	5.4	266.
14	320.0	7686	10.3	.032	27.9	.0076	-60.6			294.4	6.4	255.
15	304.0	8003	10.3	.034	28.1	.0080	-62.4			296.1	7.1	246.
16	288.0	8334	9.7	.034	26.9	.0084	-65.1			296.9	7.6	240.
17	273.0	8657	9.9	.036	27.8	.0088	-68.2			297.0	8.0	238.
18	259.0	8971	11.0	.042	31.4	.0092	-70.4			298.2	7.1	244.
19	246.0	9277	16.9	.069	48.1	.0098	-69.8			303.6	5.7	254.
20	234.0	9575	20.2	.086	57.4	.0105	-69.5			308.3	3.9	250.
21	227.0	9755	28.5	.125	80.8	.0111	-70.0			310.4	3.2	258.
22	219.0	9968	32.2	.147	91.3	.0120	-69.5			314.2	2.7	260.
23	211.0	10190	46.3	.219	130.9	.0131	-69.3			317.9	3.7	274.
24	204.0	10391	49.2	.241	139.1	.0144	-69.1			321.4	4.8	279.
25	197.1	10596	52.1	.264	147.8	.0158	-69.5			323.8	3.6	269.
26	190.8	10789	52.1	.273	147.7	.0171	-69.5			326.9	2.8	260.
27	184.2	10998	57.7	.313	163.4	.0186	-69.5			330.2	2.1	224.
28	177.7	11212	58.3	.328	165.2	.0203	-69.5			333.6	1.1	202.
29	171.1	11437	54.3	.317	154.3	.0220	-70.0			336.5	.5	142.
30	165.2	11645	52.6	.319	149.8	.0234	-70.2			339.5	3.1	111.
31	159.8	11842	58.8	.368	167.3	.0249	-70.2			342.7	2.5	85.
32	154.4	12045	64.4	.417	183.8	.0266	-70.9			344.9	2.9	2.
33	148.9	12260	62.4	.419	177.6	.0284	-70.2			349.7	3.9	6.
34	144.2	12451	53.5	.371	151.6	.0299	-69.3			354.5	3.5	346.
35	139.7	12640	51.8	.371	146.9	.0312	-69.5			357.3	2.0	295.
36	135.3	12830	58.0	.429	164.4	.0326	-69.3			361.0	1.1	163.
37	130.8	13031	50.4	.386	143.0	.0340	-69.5			364.1	2.1	54.
38	126.6	13225	50.3	.398	143.0	.0353	-69.8			367.1	2.7	8.
39	122.4	13426	48.4	.395	137.2	.0366	-69.5			371.1	.5	325.
40	118.4	13624	44.4	.375	125.8	.0378	-69.5			374.6	1.1	224.
41	114.3	13834	43.9	.384	124.0	.0391	-69.1			379.2	.8	173.
42	110.3	14046	44.4	.403	125.8	.0403	-69.3			382.7	1.1	139.
43	106.7	14244	44.5	.417	125.6	.0415	-68.7			387.6	1.1	148.
44	103.1	14449	39.9	.387	112.9	.0426	-68.9			391.0	2.6	127.
45	100.0	14631	38.8	.388	109.8	.0436	-69.1			394.0	1.6	113.
46	96.0	14875	55.2	.575	155.7	.0451	-68.7			399.5	1.4	100.
47	92.9	15071	59.1	.637	167.1	.0466	-68.9			402.8	1.5	101.
48	89.8	15274	36.1	.401	101.7	.0478	-68.4			407.6	1.6	99.
49	86.7	15484	29.0	.335	81.6	.0487	-68.0			412.6	3.0	103.

STATION: SOUTH POLE LAUNCH DATE: 1 NOV 86 220 Z ECC SONDE: 4A2465

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZONE GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	83.5	15710	23.7	.284	66.7	.0495	-67.6			417.9	2.1	104.
51	80.8	15907	25.3	.313	71.2	.0502	-68.0			421.0	2.0	116.
52	78.0	16118	24.2	.310	67.9	.0508	-68.0			425.2	3.1	93.
53	75.4	16321	32.4	.430	91.2	.0516	-68.0			429.4	3.6	81.
54	73.9	16442	29.9	.405	83.8	.0521	-66.8			434.5	6.5	91.
55	70.4	16735	46.6	.662	129.9	.0536	-66.3			441.4	7.3	91.
56	68.1	16936	47.4	.696	131.3	.0548	-64.7			449.1	6.1	105.
57	65.2	17201	39.5	.605	109.4	.0563	-64.7			454.7	6.3	117.
58	63.6	17352	33.0	.518	91.4	.0570	-64.9			457.5	6.6	113.
59	61.4	17567	34.5	.562	95.1	.0579	-63.6			465.2	8.0	102.
60	59.3	17781	43.9	.740	120.0	.0590	-62.2			472.8	7.7	83.
61	57.0	18025	45.0	.789	122.9	.0604	-62.0			478.6	6.6	79.
62	55.0	18245	49.2	.895	134.6	.0617	-61.9			483.9	7.1	94.
63	53.0	18474	49.8	.939	135.7	.0632	-61.5			490.0	8.4	90.
64	51.2	18689	53.1	1.037	143.5	.0646	-59.9			498.6	7.8	82.
65	49.6	18888	64.7	1.305	174.2	.0660	-58.5			506.5	7.3	85.
66	48.4	19042	74.6	1.542	199.4	.0674	-57.1			513.3	6.2	86.
67	47.2	19201	85.2	1.805	227.3	.0690	-56.8			517.8	3.9	88.
68	45.9	19378	88.3	1.923	233.7	.0709	-55.3			525.5	4.7	117.
69	44.5	19575	83.5	1.877	220.8	.0730	-54.8			531.4	7.5	116.
70	43.0	19794	89.0	2.070	234.4	.0753	-54.0			538.6	9.9	105.
71	41.1	20085	97.7	2.377	254.8	.0786	-51.8			551.1	12.2	96.
72	39.4	20359	102.5	2.603	265.7	.0820	-50.4			561.3	13.5	78.
73	38.2	20561	102.1	2.673	263.7	.0845	-49.5			568.5	10.8	59.
74	37.1	20752	103.0	2.776	265.4	.0868	-49.2			574.1	6.5	53.
75	36.0	20949	103.5	2.876	265.9	.0893	-48.3			581.3	5.9	89.
76	34.9	21153	99.2	2.844	254.4	.0918	-48.0			587.3	9.1	103.
77	33.4	21444	98.0	2.935	249.1	.0952	-45.9			600.1	12.8	99.
78	31.9	21750	97.5	3.056	246.6	.0987	-45.1			610.3	14.9	84.
79	31.0	21941	95.2	3.070	240.5	.1009	-44.5			616.9	14.9	75.
80	30.2	22116	92.3	3.057	231.9	.1029	-43.2			625.0	13.9	75.
81	29.3	22320	91.3	3.117	227.8	.1050	-41.8			634.2	13.6	69.
82	28.2	22579	92.9	3.293	231.5	.1078	-41.6			642.0	12.6	65.
83	27.3	22799	92.0	3.370	228.7	.1102	-40.9			649.9	13.4	66.
84	26.5	23001	89.6	3.380	222.5	.1123	-40.6			656.2	14.5	71.
85	25.7	23210	87.8	3.417	216.4	.1145	-39.0			666.6	14.7	77.
86	24.9	23427	89.4	3.589	219.6	.1167	-38.1			675.0	13.4	80.
87	24.2	23623	92.1	3.806	225.4	.1187	-37.2			683.3	14.3	85.
88	23.4	23855	90.7	3.875	221.0	.1211	-36.1			693.0	15.7	82.
89	22.8	24035	87.9	3.856	213.2	.1230	-35.2			700.9	15.0	83.
90	22.1	24252	88.1	3.989	213.2	.1251	-34.4			709.6	18.6	85.
91	21.4	24477	87.9	4.109	211.0	.1274	-32.7			721.3	20.9	82.
92	20.9	24643	88.6	4.239	211.9	.1290	-31.6			729.4	20.1	83.
93	20.5	24780	87.6	4.273	207.8	.1304	-29.9			738.7	21.4	80.
94	20.0	24956	84.8	4.242	200.9	.1320	-29.4			745.5	20.2	74.
95	19.5	25137	84.3	4.323	198.8	.1337	-28.6			753.4	20.8	73.
96	19.0	25323	82.2	4.327	193.9	.1354	-28.3			759.8	22.4	69.
97	18.5	25514	76.4	4.129	179.0	.1371	-26.9			770.1	21.0	62.
98	18.1	25671	75.2	4.153	175.9	.1384	-26.2			777.0	20.2	63.
99	17.8	25792	74.3	4.174	172.6	.1394	-24.5			786.2	20.8	71.
100	17.2	26041	75.8	4.409	176.1	.1414	-24.3			794.4	18.8	75.
101	16.9	26169	73.0	4.318	169.6	.1425	-24.9			796.7	20.4	79.
102	16.5	26343	73.2	4.436	169.6	.1439	-24.1			804.7	25.6	82.
103	16.1	26522	71.0	4.410	163.9	.1452	-22.9			814.3	27.9	83.
104	15.7	26706	71.1	4.529	163.2	.1467	-21.7			824.1	26.4	80.

STATION: SOUTH POLE LAUNCH DATE: 1 NOV 86 220 Z ECC SONDE: 4A2465

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	15.3	26896	71.2	4.555	163.4	.1481	-21.7			830.2	13.5	71.
106	15.0	27041	68.4	4.558	157.2	.1492	-21.9			834.0	23.5	72.
107	14.8	27139	68.9	4.656	158.2	.1499	-21.5			838.5	33.5	75.
108	14.3	27392	68.3	4.773	156.1	.1518	-20.9			849.1	27.5	76.
109	14.0	27548	67.6	4.828	154.2	.1529	-20.1			857.0	34.4	75.
110	13.8	27654	65.7	4.763	150.0	.1537	-20.3			859.6	31.4	77.
111	13.7	27707	65.7	4.798	150.1	.1541	-20.6			860.4	24.8	75.
112	13.5	27815	63.0	4.665	144.2	.1548	-20.9			863.2	24.8	75.

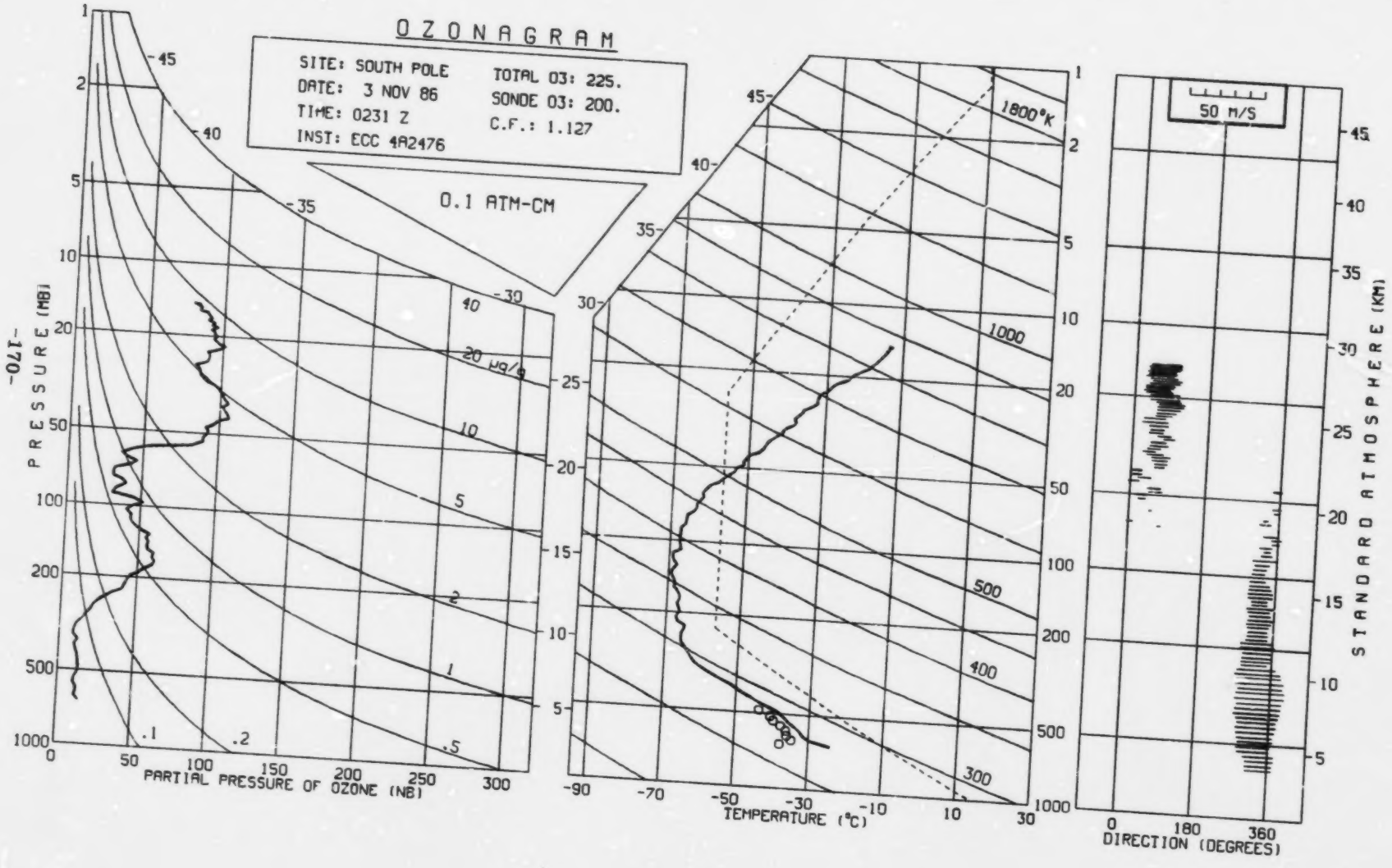
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.8	11.9	47.9	39.6	78.4	85.2	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110101118602   00205   991.099   ECC     TOTAL O3 FROM SONDE DATA  187
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110201118602    667 12-38        500 17-41 14  4 300 10-63245  7 200 51-69273  4
1110301118602    150 63-70  5  4 100 39-69113  2  70 47-66 93  7  50 62-59 84  7
1110401118602     30 92-43 74 1420.0 85-29 74 20 564 13-38  3  7 259 11-70244  7
1110501118602    234 20-70250  4 178 58-70202  1 165 53-70111  3 144 54-69346  4
1110601118602    135 58-69163  1  93 59-69101  2  90 36-68 99  2  87 29-68103  3
1110701118602     78 24-68 93  3  61 35-64102  8  47 85-57 88  4  45 84-55116  8
1110801118602     39103-50 78 1426.5 90-41 71 1515.7 71-22 80 2613.5 63-21 75 25
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 3 NOV 86 231 Z ECC SONDE: 4A2476
SURFACE CONDITIONS: PRESSURE 659.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.9 ORD;
O3 ORD ZERO 31.3, BKGND 32.0, CAL 67.8; O3 BKGND .101 MICROAMP; FLOW RATE 28.3 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 225.; SONDE TOTAL O3 200.; C.F. 1.127

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN CAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	660.0	2799	14.4	.022	33.6	.0000	-24.4	-38.0	27.6	280.1		
1	633.0	3100	11.5	.018	27.3	.0004	-29.9	-34.9	62.3	277.3	17.2	340.
2	608.0	3386	12.6	.021	30.2	.0008	-31.8	-36.2	66.5	278.2	17.2	340.
3	581.0	3706	12.4	.021	29.9	.0013	-32.8	-36.4	70.9	280.7	18.9	341.
4	556.0	4014	10.5	.019	25.4	.0017	-34.4	-37.9	71.2	282.4	20.5	337.
5	532.0	4321	11.0	.021	27.1	.0020	-36.2	-39.9	70.0	283.7	21.1	325.
6	512.0	4586	12.9	.025	31.3	.0024	-37.3	-40.8	71.0	285.6	22.3	324.
7	486.0	4944	13.4	.028	33.0	.0029	-39.5	-43.9	63.7	287.2	23.3	329.
8	467.0	5215	13.3	.028	33.4	.0034	-42.1			287.2	23.9	327.
9	446.0	5524	12.7	.029	32.2	.0038	-44.8			287.7	25.5	329.
10	425.0	5844	12.1	.028	30.8	.0043	-47.4			288.3	26.7	329.
11	404.0	6177	10.8	.027	28.2	.0048	-50.0			289.1	25.8	330.
12	387.0	6456	10.3	.027	26.8	.0051	-51.9			290.2	27.6	331.
13	369.0	6762	12.4	.034	32.7	.0055	-54.6			290.6	30.8	330.
14	352.0	7062	8.9	.025	23.9	.0059	-57.1			291.2	30.0	332.
15	335.0	7373	9.7	.029	26.0	.0063	-59.7			291.8	30.1	335.
16	318.0	7696	10.8	.034	29.6	.0067	-62.0			292.9	33.0	335.
17	301.0	8034	14.8	.049	40.6	.0073	-63.1			296.0	32.1	336.
18	289.0	8283	17.1	.059	47.2	.0078	-63.9			298.3	29.2	335.
19	277.0	8542	20.0	.072	55.5	.0084	-64.9			300.5	32.0	333.
20	263.0	8857	21.8	.083	60.5	.0093	-65.9			303.6	29.6	331.
21	253.0	9092	24.7	.098	68.8	.0100	-65.9			306.9	30.3	328.
22	243.0	9336	29.6	.122	82.5	.0108	-65.9			310.5	25.3	324.
23	234.0	9565	34.0	.145	94.6	.0118	-65.3			314.8	16.5	318.
24	226.0	9776	40.2	.178	111.7	.0128	-65.1			318.2	20.0	322.
25	216.0	9994	41.5	.190	116.2	.0140	-67.1			318.4	19.9	325.
26	208.0	10277	43.1	.207	120.8	.0155	-67.6			322.0	19.7	325.
27	197.2	10598	45.3	.230	126.8	.0174	-66.7			328.3	22.6	325.
28	190.4	10809	50.8	.267	142.5	.0187	-67.1			330.9	21.3	323.
29	183.6	11028	54.4	.297	152.9	.0202	-67.4			334.0	14.2	321.
30	176.7	11259	59.9	.339	167.6	.0220	-66.9			338.4	14.1	323.
31	170.3	11481	61.0	.358	170.7	.0237	-66.9			342.0	13.1	322.
32	164.4	11693	59.4	.361	166.8	.0254	-67.6			344.4	14.3	323.
33	158.6	11908	60.3	.380	170.2	.0271	-68.6			346.1	16.2	325.
34	152.8	12131	55.9	.366	157.7	.0288	-68.4			350.2	16.4	327.
35	147.3	12350	55.7	.378	157.0	.0304	-68.6			353.5	14.3	326.
36	142.0	12569	56.4	.397	159.5	.0320	-69.3			356.1	14.4	323.
37	136.8	12791	54.9	.401	155.7	.0337	-69.5			359.5	17.9	326.
38	131.8	13013	57.0	.433	161.2	.0353	-68.9			364.5	10.3	323.
39	127.1	13230	51.7	.407	145.5	.0369	-68.0			369.9	10.3	323.
40	122.4	13455	47.9	.391	135.4	.0384	-68.9			372.3	16.3	325.
41	117.7	13689	44.8	.380	126.6	.0398	-69.3			375.7	16.7	324.
42	113.1	13927	43.6	.386	123.5	.0412	-69.3			380.0	14.7	323.
43	108.8	14159	43.9	.403	122.9	.0425	-67.1			388.3	13.2	322.
44	104.3	14413	40.7	.390	114.2	.0439	-67.4			392.6	10.1	317.
45	100.0	14666	45.0	.450	126.4	.0453	-67.6			396.9	5.4	307.
46	97.0	14849	51.2	.528	143.8	.0465	-67.6			400.4	8.4	318.
47	93.2	15089	45.4	.487	127.3	.0480	-67.4			405.4	8.8	321.
48	89.4	15339	30.3	.339	85.2	.0493	-67.4			410.3	9.3	326.
49	85.6	15601	32.8	.383	91.5	.0503	-66.3			417.5	15.3	330.

STATION: SOUTH POLE LAUNCH DATE: 3 NOV 86 231 Z ECC SONDE: 4A2476

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	82.0	15861	39.2	.478	109.5	.0516	-66.1			423.1	7.4	335.
51	79.2	16071	36.7	.464	102.4	.0526	-65.9			427.7	4.1	335.
52	76.3	16298	30.3	.397	83.8	.0536	-64.3			435.6	8.2	332.
53	73.6	16518	30.7	.417	84.3	.0545	-63.5			441.8	4.8	356.
54	70.9	16747	31.2	.440	85.9	.0554	-63.5			446.5	6.5	357.
55	68.5	16958	41.9	.612	115.1	.0564	-62.6			453.0	9.1	343.
56	66.2	17169	46.0	.695	125.6	.0576	-61.8			459.0	2.3	73.
57	63.9	17387	39.1	.612	107.0	.0587	-62.0			463.3	4.0	3.
58	61.7	17604	36.0	.583	98.1	.0598	-61.3			469.6	7.3	329.
59	59.5	17829	42.5	.714	115.3	.0609	-60.2			476.9	2.9	329.
60	57.6	18032	53.5	.930	143.8	.0621	-58.1			486.1	1.3	51.
61	55.8	18232	82.4	1.477	220.0	.0638	-56.9			493.3	3.2	354.
62	53.8	18464	89.5	1.664	237.3	.0663	-55.2			502.3	5.7	353.
63	52.0	18681	89.4	1.719	235.1	.0687	-53.8			510.6	5.2	29.
64	50.3	18894	91.8	1.824	241.2	.0711	-53.5			516.2	8.2	26.
65	48.6	19116	92.8	1.909	241.6	.0736	-51.4			526.1	9.0	60.
66	47.2	19305	91.2	1.932	237.6	.0757	-51.6			530.2	9.6	55.
67	45.8	19500	96.4	2.104	250.4	.0779	-50.8			536.6	5.9	354.
68	44.3	19717	98.9	2.232	255.8	.0805	-50.0			543.6	7.1	7.
69	42.9	19927	106.0	2.470	271.2	.0831	-47.7			554.5	9.0	32.
70	41.4	20162	105.1	2.538	267.6	.0861	-46.5			563.0	7.1	13.
71	39.9	20407	103.4	2.591	262.5	.0891	-45.9			570.5	7.1	13.
72	38.5	20645	101.6	2.638	257.4	.0920	-45.3			577.8	6.0	67.
73	37.2	20874	105.4	2.833	265.7	.0948	-44.1			586.7	8.4	70.
74	36.0	21094	103.1	2.865	258.5	.0975	-42.8			595.5	10.2	66.
75	35.0	21284	101.8	2.908	253.6	.0998	-41.5			603.6	12.6	69.
76	34.0	21480	101.1	2.974	251.7	.1021	-41.3			609.4	11.3	54.
77	33.1	21662	99.0	2.990	245.3	.1042	-40.2			617.0	8.2	40.
78	32.2	21850	98.6	3.063	242.6	.1064	-38.5			626.2	8.6	52.
79	31.3	22044	94.9	3.032	233.1	.1085	-38.1			632.4	12.1	63.
80	30.4	22244	90.4	2.974	222.2	.1107	-38.4			637.0	9.9	61.
81	29.5	22451	87.1	2.954	213.4	.1128	-37.4			645.0	7.4	87.
82	28.7	22641	85.7	2.985	209.1	.1146	-36.5			652.7	8.9	75.
83	27.9	22837	85.4	3.063	208.1	.1165	-36.1			659.1	9.6	54.
84	27.1	23039	84.8	3.128	204.7	.1185	-34.2			669.9	9.0	57.
85	26.2	23276	82.3	3.141	197.6	.1207	-32.6			680.9	12.8	60.
86	25.4	23494	89.6	3.528	215.1	.1228	-32.6			687.0	17.0	51.
87	24.5	23748	91.1	3.718	218.3	.1254	-32.2			695.2	14.6	50.
88	23.8	23952	91.1	3.827	217.7	.1275	-31.6			702.9	11.3	71.
89	23.2	24133	90.0	3.877	213.7	.1293	-30.1			712.3	12.8	77.
90	22.5	24351	97.7	4.344	231.2	.1316	-29.2			721.3	15.3	82.
91	21.9	24544	101.1	4.617	238.4	.1337	-28.4			729.3	17.3	86.
92	21.4	24709	96.8	4.525	227.4	.1355	-27.3			737.3	16.9	89.
93	20.9	24879	95.4	4.563	222.4	.1373	-25.5			747.9	16.5	81.
94	20.5	25019	93.3	4.553	216.4	.1387	-24.3			755.6	19.7	72.
95	20.0	25199	95.3	4.763	220.6	.1406	-23.8			762.6	21.4	68.
96	19.6	25354	93.9	4.796	216.5	.1422	-23.0			769.7	19.4	71.
97	19.2	25494	93.9	4.888	215.6	.1436	-21.8			777.6	17.4	57.
98	18.8	25641	91.5	4.861	209.3	.1450	-20.7			785.4	17.8	52.
99	18.4	25796	95.5	5.178	217.0	.1466	-19.2			794.7	18.3	58.
100	18.1	25951	91.9	5.087	208.3	.1481	-18.7			801.2	19.3	60.
101	17.7	26114	93.4	5.289	211.1	.1497	-17.6			809.7	19.9	70.
102	17.3	26272	89.4	5.167	201.6	.1512	-17.2			815.9	19.2	76.
103	16.9	26434	91.3	5.393	205.3	.1528	-16.5			823.1	18.1	66.
104	16.6	26591	90.1	5.432	202.0	.1543	-15.8			830.3	18.8	56.

STATION: SOUTH POLE LAUNCH DATE: 3 NOV 86 231 Z ECC SONDE: 4A2476

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	16.3	26710	88.8	5.443	199.1	.1554	-15.5			834.9	18.2	64.
106	16.1	26821	88.6	5.510	198.3	.1564	-15.1			839.8	17.9	64
107	15 8	26944	83.4	5.273	186.3	.1575	-14.8			844.6	18.6	61.
108	15.6	27050	83.4	5.347	186.2	.1585	-14.6			848.9	19.3	69.
109	15.4	27157	84.3	5.482	187.8	.1594	-14.0			854.2	20.5	71.
110	15.2	27271	82.9	5.469	184.5	.1604	-14.1			857.4	21.0	69.
111	15.0	27361	81.5	5.444	181.4	.1612	-13.7			861.8	19.5	73.
112	14.9	27401	82.3	5.526	183.0	.1615	-13.4			864.0	18.9	72.
113	14.8	27441	79.1	5.343	176.3	.1618	-14.0			863.5	18.9	72.

UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

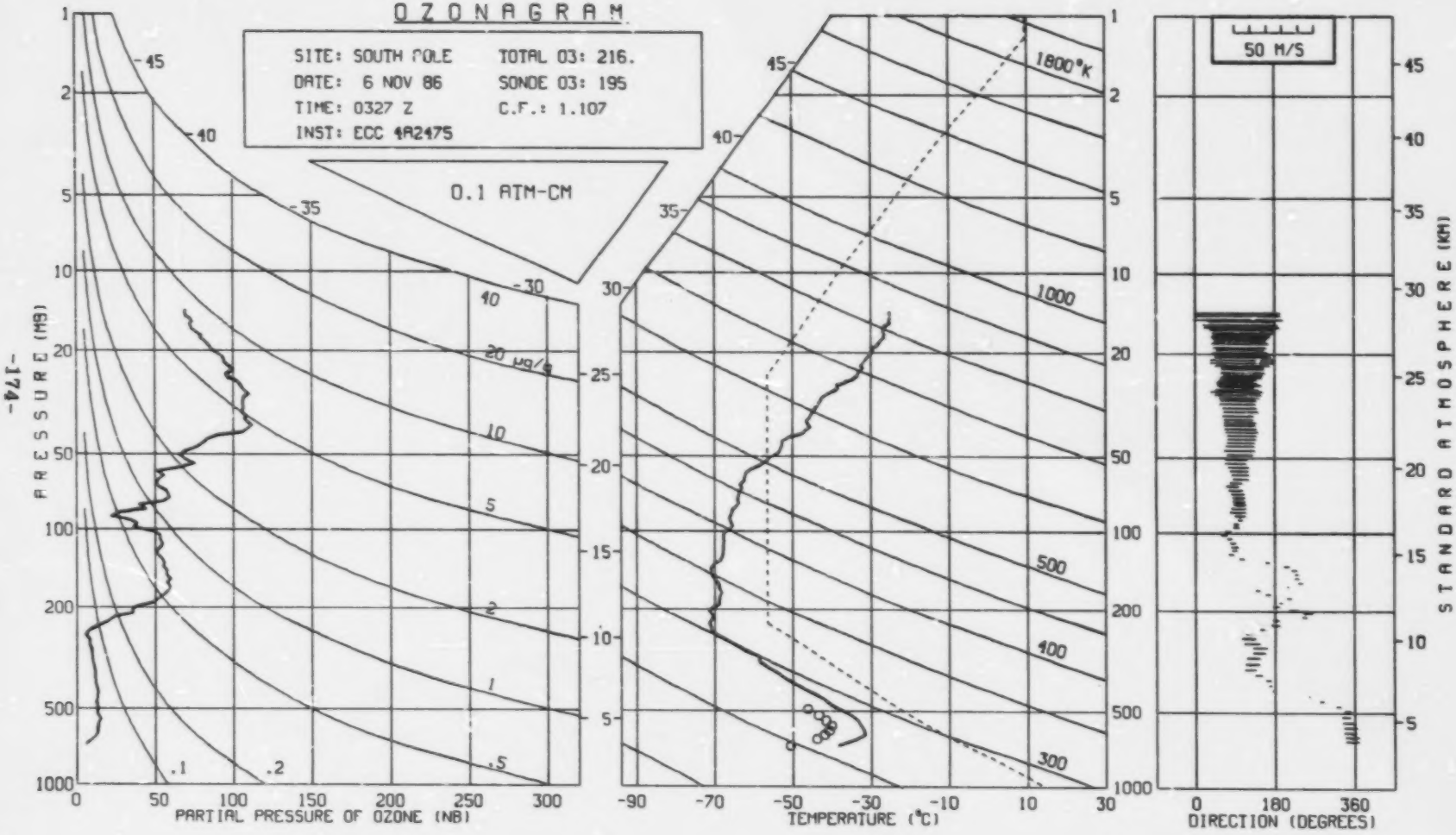
SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.0	13.9	49.9	40.0	90.0	90.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110103118603   00225   991.127   ECC    TOTAL O3 FROM SONDE DATA  200
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110203118603    660 14-24       500 13-38326 23 300 15-63336 32 200 45-67325 22
1110303118603    150 56-69326 15 100 45-68307  5  70 35-63 -8  7  50 92-53 32  8
1110403118603     30 89-38 72  920.0 95-24 68 21 633 11-30340 17 335 10-60335 30
1110503118603    263 22-66331 30 177 60-67323 14  97 51-68318  8  89 30-67326  9
1110603118603     82 39-66335  7  76 30-64332  8  66 46-62 73  2  62 36-61329  7
1110703118603     58 54-58 51  1  56 82-57 -6  3  47 91-52 55 10  43106-48 32  9
1110803118603     32 99-39 52  926.2 82-33 60 1323.8 91-32 71 1121.9101-28 86 17
1110903118603   17.7 93-18 70 2014.8 79-14 72 19
```

BLANK PAGE



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 6 NOV 86 327 Z ECC SONDE: 4A2475
SURFACE CONDITIONS: PRESSURE 690.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.8 ORD;
O3 ORD ZERO 30.8, BKGND 31.2, CAL 68.2; O3 BKGND .056 MICROAMP; FLOW RATE 27.5 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 216.; SONDE TOTAL O3 195.; C.F. 1.107

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	690.0	2800	5.8	.008	14.3	.0000	-38.7	-50.9	26.7	260.7		
1	647.0	3246	11.1	.017	26.7	.0004	-33 9	-44.2	35.1	271.0	8.2	355.
2	621.0	3534	13.2	.021	31.4	.0008	-31.9	-42.2	35.6	276.5	8.2	355.
3	596.0	3824	13.3	.022	31.8	.0012	-32.0	-41.0	41.1	279.6	7.7	350.
4	569.0	4150	13.5	.024	32.3	.0017	-32.8	-40.4	47.1	282.4	8.3	351.
5	544.0	4465	14.9	.027	36.1	.0022	-33.6	-41.8	44.3	285.1	7.2	345.
6	519.0	4793	12.8	.025	31.3	.0028	-35.5	-43.7	43.1	286.7	5.4	341.
7	492.0	5162	13.3	.027	32.5	.0033	-38.4	-46.5	42.9	287.5	3.8	345.
8	472.0	5445	12.4	.026	30.9	.0037	-40.7			288.0	2.7	324.
9	451.0	5753	12.9	.029	32.3	.0042	-42.3			289.9	2.2	286.
10	431.0	6058	13.5	.031	34.2	.0047	-44.7			290.6	.7	257.
11	411.0	6374	12.5	.030	31.9	.0051	-47.4			291.1	1.0	176.
12	392.0	6685	11.8	.030	30.7	.0056	-49.8			291.9	1.7	169.
13	375.0	6973	11.5	.031	30.1	.0060	-52.1			292.6	2.9	165.
14	358.0	7272	11.5	.032	30.4	.0064	-54.0			294.0	4.4	143.
15	342.0	7564	11.0	.032	29.3	.0068	-56.3			294.7	6.7	124.
16	325.0	7886	10.1	.031	27.1	.0073	-58.6			295.8	8.5	129.
17	308.0	8223	9.6	.031	26.1	.0077	-59.0			299.9	8.2	131.
18	294.0	8512	9.5	.032	26.1	.0080	-62.6			298.7	7.6	144.
19	282.0	8767	8.0	.028	22.1	.0083	-64.5			299.5	9.0	146.
20	271.0	9008	8.2	.030	23.0	.0086	-66.5			300.0	9.6	128.
21	259.0	9280	5.6	.022	15.9	.0088	-68.9			300.5	8.6	120.
22	248.0	9538	8.2	.033	23.5	.0090	-70.9			301.2	6.6	125.
23	238.0	9781	13.4	.056	38.3	.0094	-71.1			304.5	4.6	155.
24	229.0	10008	19.5	.085	55.8	.0099	-71.6			307.1	5.0	182.
25	218.0	10299	24.5	.112	69.7	.0108	-70.7			312.9	3.8	182.
26	211.0	10492	35.6	.169	101.6	.0115	-70.7			315.8	2.6	247.
27	204.0	10691	35.4	.174	101.6	.0125	-71.6			317.4	5.3	255.
28	198.2	10861	38.4	.194	109.4	.0133	-70.9			321.2	5.5	223.
29	191.4	11068	48.9	.256	138.3	.0145	-69.1			327.3	3.9	184.
30	184.6	11284	52.1	.282	147.4	.0160	-69.1			330.7	2.1	193.
31	177.8	11508	55.8	.314	157.7	.0176	-68.9			334.6	2.5	212.
32	171.9	11710	58.4	.340	164.6	.0191	-68.4			338.6	2.9	165.
33	166.2	11911	59.3	.357	167.7	.0206	-69.1			340.8	2.6	142.
34	160.5	12119	57.5	.358	163.0	.0222	-69.1			344.2	1.0	210.
35	154.9	12330	59.9	.386	169.8	.0239	-69.8			346.5	2.5	238.
36	149.6	12536	57.1	.382	162.8	.0255	-70.7			348.4	2.4	230.
37	144.3	12749	57.4	.398	164.1	.0271	-71.1			351.3	2.6	231.
38	139.0	12970	55.0	.396	157.1	.0288	-71.1			355.0	3.4	224.
39	134.3	13173	55.9	.416	159.2	.0303	-70.4			359.8	3.1	207.
40	129.8	13376	54.4	.419	153.6	.0318	-68.7			366.5	2.6	163.
41	125.3	13587	51.7	.412	145.4	.0333	-68.2			371.0	2.8	105.
42	121.0	13796	51.0	.422	143.6	.0347	-68.0			375.1	2.7	81.
43	116.6	14018	53.8	.461	151.5	.0362	-68.0			379.1	2.8	89.
44	112.6	14227	54.4	.483	153.4	.0377	-68.0			382.9	4.3	89.
45	108.8	14433	53.1	.488	149.4	.0391	-67.8			387.0	3.3	65.
46	105.2	14635	53.2	.506	149.7	.0406	-68.0			390.4	2.7	77.
47	101.8	14832	49.1	.483	138.0	.0419	-67.8			394.5	3.4	65.
48	98.5	15030	36.7	.373	102.5	.0430	-66.3			401.0	2.9	74.
49	95.3	15230	38.3	.402	106.7	.0440	-65.7			406.0	3.6	92.

STATION: SOUTH POLE LAUNCH DATE: 6 NOV 86 327 Z ECC SONDE: 4A2475

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	FOT T K	WIND M/S	WIND DEG
50	92.1	15437	34.1	.370	95.6	.0450	-66.1			409.2	2.9	93.
51	89.8	15644	22.5	.252	63.0	.0457	-66.5			412.4	2.8	101.
52	85.7	15872	27.4	.320	76.3	.0465	-65.9			418.1	6.3	101.
53	82.6	16095	44.0	.533	122.7	.0475	-65.7			423.0	9.5	97.
54	79.6	16320	40.3	.506	111.6	.0487	-64.7			429.5	9.1	98.
55	76.8	16539	55.5	.723	153.4	.0501	-63.9			435.6	7.5	101.
56	74.2	16749	59.1	.796	163.3	.0516	-64.3			439.1	7.2	99.
57	71.7	16958	58.5	.816	161.6	.0532	-64.1			443.8	7.5	98.
58	69.2	17175	56.9	.822	156.8	.0549	-63.9			448.7	8.2	96.
59	66.7	17400	52.2	.783	143.7	.0564	-63.2			455.1	8.7	91.
60	64.5	17605	51.0	.791	140.7	.0578	-63.7			458.3	7.9	84.
61	62.4	17808	52.3	.839	143.4	.0592	-62.6			465.2	7.4	92.
62	60.3	18019	55.5	.921	152.3	.0606	-62.6			469.7	9.7	103.
63	58.0	18259	51.2	.883	140.4	.0622	-62.2			475.8	10.9	102.
64	56.2	18454	66.6	1.185	181.1	.0637	-60.8			483.5	11.3	99.
65	54.4	18657	75.0	1.379	201.9	.0655	-58.6			492.9	12.8	97.
66	52.5	18881	69.8	1.330	186.4	.0676	-57.1			501.5	13.7	91.
67	50.6	19114	66.1	1.306	175.8	.0695	-56.1			509.2	13.3	93.
68	48.8	19345	69.2	1.417	182.2	.0715	-54.0			519.5	15.8	101.
69	47.0	19586	77.2	1.643	202.6	.0736	-53.2			527.0	19.0	100.
70	45.2	19837	81.1	1.794	212.5	.0761	-52.9			533.7	17.9	101.
71	43.8	20040	83.7	1.910	219.3	.0781	-52.9			538.5	17.5	104.
72	42.4	20250	89.6	2.114	232.8	.0803	-50.8			548.5	17.7	105.
73	41.2	20438	105.7	2.565	270.8	.0826	-47.8			560.5	18.1	105.
74	39.8	20666	109.3	2.747	279.0	.0855	-46.8			568.6	20.2	105.
75	38.8	20835	111.9	2.883	284.0	.0877	-45.8			575.3	19.7	102.
76	37.6	21043	108.7	2.890	276.6	.0904	-46.4			579.0	19.4	101.
77	36.8	21185	107.2	2.914	273.3	.0923	-46.7			581.8	19.8	101.
78	35.8	21368	107.8	3.010	273.8	.0946	-45.9			588.3	18.4	98.
79	34.7	21575	105.3	3.036	267.1	.0972	-45.5			594.7	19.4	97.
80	33.6	21790	106.3	3.165	269.8	.0999	-44.8			602.1	21.7	103.
81	32.5	22012	106.2	3.268	267.9	.1027	-44.2			609.4	21.3	100.
82	31.4	22243	106.1	3.379	266.7	.1056	-43.4			617.7	22.7	95.
83	30.4	22461	106.9	3.516	267.9	.1083	-42.8			624.9	22.4	97.
84	29.8	22595	110.0	3.691	275.0	.1100	-42.3			630.0	25.2	100.
85	28.9	22803	107.3	3.714	266.6	.1127	-40.7			639.8	28.8	97.
86	28.2	22970	105.7	3.747	260.9	.1147	-39.2			648.4	32.4	94.
87	27.7	23092	105.0	3.791	258.6	.1162	-38.7			653.3	26.3	94.
88	27.0	23267	103.8	3.844	255.7	.1183	-38.8			657.7	21.0	95.
89	26.6	23369	103.0	3 873	252.1	.1195	-37.2			665.1	27.1	99.
90	26.2	23473	100.6	3.839	245.0	.1208	-36.3			670.6	24.8	95.
91	26.0	23526	100.6	3.869	245.4	.1214	-36.5			671.3	20.0	86.
92	25.8	23579	96.8	3.753	235.0	.1220	-35.2			676.6	19.4	88.
93	25.5	23660	97.5	3.823	235.9	.1229	-34.5			680.8	20.3	95.
94	25.2	23742	95.6	3.794	231.0	.1238	-34.4			683.5	22.7	98.
95	24.8	23854	95.2	3.837	229.5	.1250	-33.7			688.5	25.3	104.
96	24.2	24025	98.1	4.056	236.6	.1268	-33.6			693.7	24.3	109.
97	23.7	24171	99.3	4.188	238.8	.1285	-33.1			699.4	27.7	108.
98	22.9	24412	97.0	4.238	232.6	.1311	-32.3			708.7	26.4	107.
99	22.6	24504	95.4	4.220	229.2	.1321	-32.8			709.8	26.4	107.
100	22.2	24629	94.4	4.252	226.3	.1335	-32.4			714.6	34.5	106.
101	21.6	24822	93.9	4.349	225.0	.1355	-31.9			721.8	39.8	105.
102	21.1	24987	93.2	4.416	222.5	.1372	-31.3			728.2	39.6	106.
103	20.5	25191	90.6	4.421	215.9	.1393	-30.7			736.3	35.4	108.
104	20.1	25331	88.5	4.404	210.2	.1407	-30.0			742.4	34.0	105.

STATION: SOUTH POLE LAUNCH DATE: 6 NOV 86 327 Z ECC SONDE: 4A2475

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	19.7	25474	86.6	4.398	205.5	.1421	-29.8			747.5	34.1	102.
106	19.1	25694	85.0	4.449	201.4	.1442	-29.6			754.6	29.7	102.
107	18.8	25807	84.0	4.467	198.2	.1452	-28.7			760.9	33.0	101.
108	18.2	26039	81.3	4.469	191.6	.1474	-28.0			770.0	35.2	101.
109	17.8	26198	78.8	4.426	185.0	.1488	-27.4			777.0	31.9	101.
110	17.5	26320	79.9	4.565	187.1	.1498	-26.7			782.9	34.1	101.
111	17.2	26444	77.7	4.516	182.1	.1509	-26.9			786.3	36.6	102.
112	17.0	26528	76.6	4.504	179.4	.1516	-26.7			789.4	36.0	104.
113	16.7	26656	75.0	4.492	175.9	.1527	-27.0			792.6	35.5	108.
114	16.5	26742	73.7	4.466	173.1	.1534	-27.2			794.5	38.3	108.
115	16.1	26918	73.0	4.536	171.1	.1548	-26.7			801.8	41.3	107.
116	15.8	27053	72.6	4.594	170.2	.1559	-26.7			806.1	47.0	105.
117	15.5	27191	73.8	4.762	172.1	.1570	-25.4			814.9	46.6	102.
118	15.0	27428	72.1	4.810	168.1	.1589	-25.5			822.1	41.8	98.
119	14.8	27525	69.8	4.718	162.8	.1596	-25.4			825.7	56.3	97.
120	14.3	27774	69.5	4.859	161.8	.1615	-25.4			833.8	54.0	95.
121	14.0	27927	69.8	4.987	162.5	.1627	-25.4			838.9	54.0	95.

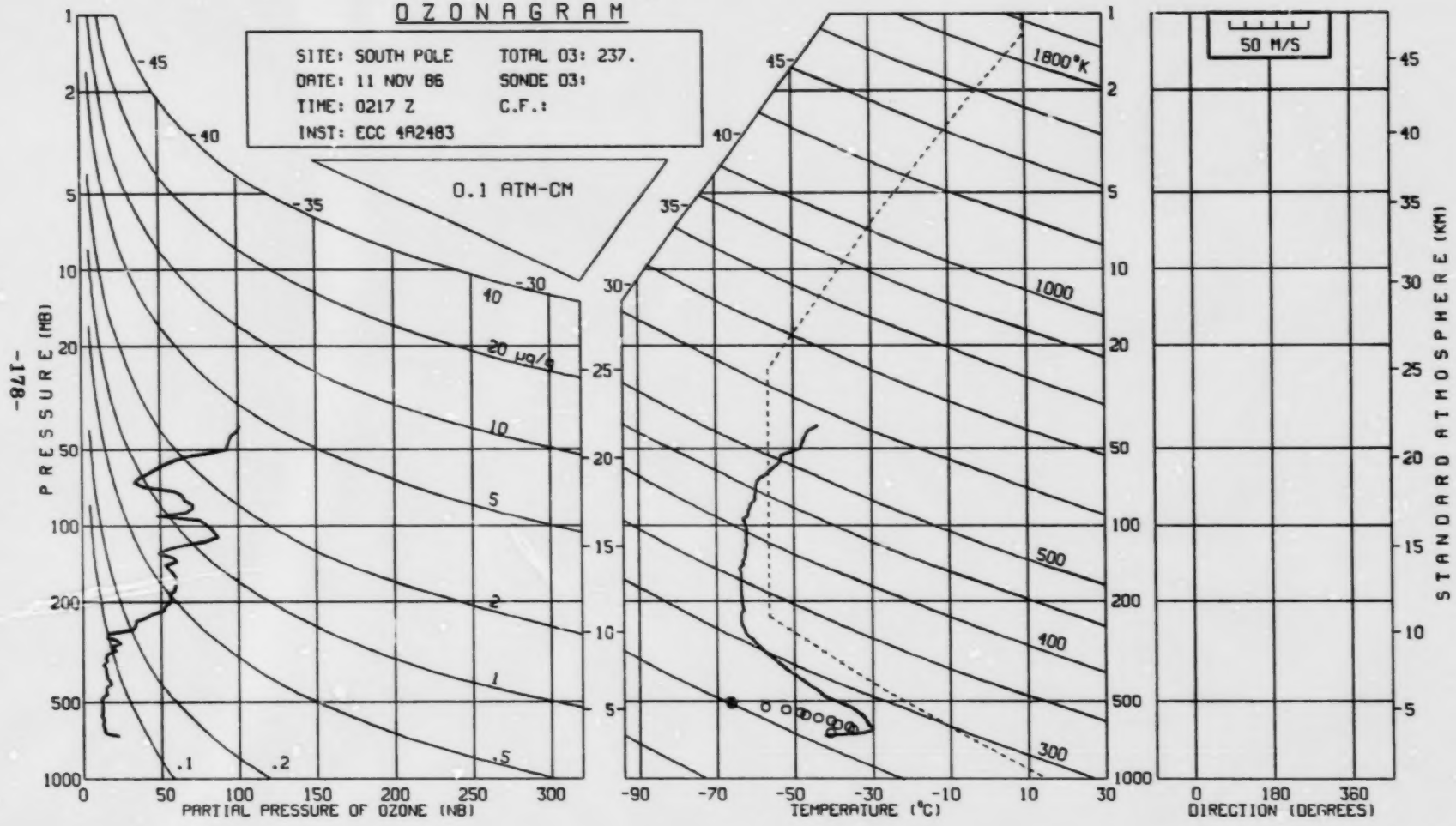
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.4	10.7	44.5	47.0	85.8	92.3	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110106118603   00216   991.107   ECC    TOTAL O3 FROM SONDE DATA  195
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110206118603    698  6-39        500 13-38344  4 300 10-61138  8 200 37-71233  5
1110306118603    150 57-71231  2 100 42-67 70  3  70 57-64 97  8  50 67-55 96 14
1110406118603     30109-42 99 2420.0 88-30104 34 621 13-32 -5  8 544 15-34345  7
1110506118603    248  8-71125  7 172 58-68165  3 105 53-68 77  3  89 22-67101  3
1110606118603     83 44-66 97 10  80 40-65 98  9  77 56-64101  8  58 51-62102 11
1110706118603     54 75-59 97 13  44 84-53104 18  41106-48105 18  39112-46102 20
1110806118603     37107-47101 2025.5 97-35 95 2017.5 80-27101 3414.0 70-25 95 54
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 11 NOV 86 217 Z ECC SONDE: 4A2483
SURFACE CONDITIONS: PRESSURE 680.0 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 28.0 ORD; TBOX 30.0 C AT 72.5 ORD;
O3 ORD ZERO 28.9, BKGND 29.3, CAL 64.8; O3 BKGND .059 MICROAMP; FLOW RATE 27.4 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 ****; SONDE TOTAL O3 ; C.F.

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	680.0	2800	22.8	.034	57.2	.0000	-42.7			257.4		
1	665.0	2953	14.4	.022	34.6	.0003	-32.8	-41.2	43.4	270.1		
2	649.0	3125	13.5	.021	32.2	.0006	-30.4	-35.4	62.5	274.7		
3	633.0	3302	13.6	.021	32.4	.0009	-30.5	-36.4	57.2	276.5		
4	618.0	3472	12.5	.020	29.9	.0011	-31.4	-39.4	45.8	277.4		
5	601.0	3669	12.9	.021	30.9	.0014	-31.8	-41.1	40.1	279.1		
6	585.0	3859	13.0	.022	31.1	.0017	-32.2	-44.4	29.6	280.8		
7	570.0	4042	11.4	.020	27.5	.0019	-33.0	-47.6	22.0	282.0		
8	556.0	4216	12.1	.022	29.1	.0021	-34.1	-49.0	20.9	282.7		
9	542.0	4394	12.0	.022	29.2	.0024	-34.9	-52.6	14.8	283.8		
10	528.0	4576	12.4	.023	30.3	.0026	-36.2	-57.9	8.9	284.4		
11	514.0	4761	12.0	.023	29.4	.0029	-38.0	-66.6	3.3	284.4		
12	501.0	4936	12.0	.024	29.6	.0031	-39.7	-66.8	3.9	284.4		
13	487.0	5129	11.5	.024	28.6	.0034	-41.5			284.5		
14	473.0	5326	12.8	.027	32.1	.0037	-42.9			285 1		
15	462.0	5484	15.2	.033	38.3	.0039	-43.5			286.4		
16	447.0	5705	14.6	.033	36.9	.0043	-44.5			287.8		
17	434.0	5902	14.6	.034	37.1	.0047	-45.9			288.5		
18	420.0	6119	17.9	.043	45.7	.0051	-47.1			289.7		
19	408.0	6310	17.4	.043	44.7	.0055	-48.1			290.8		
20	396.0	6506	15.0	.038	38.8	.0059	-49.4			291.5		
21	384.0	6707	15.0	.039	38.8	.0062	-50.3			292.9		
22	373.0	6896	14.7	.039	38.3	.0066	-51.9			293.3		
23	362.0	7089	14.6	.040	38.3	.0069	-52.8			294.6		
24	352.0	7269	12.8	.036	33.6	.0072	-53.9			295.4		
25	341.0	7472	15.2	.045	40.1	.0076	-55.1			296.6		
26	330.0	7681	14.7	.045	39.0	.0080	-55.9			298.2		
27	320.0	7876	15.0	.047	40.3	.0083	-57.4			298.8		
28	309.0	8096	20.8	.067	55.8	.0088	-58.3			300.6		
29	299.0	8302	17.9	.060	48.3	.0093	-59.3			302.0		
30	291.0	8471	23.9	.082	64.7	.0098	-60.2			303.0		
31	282.0	8666	21.4	.076	58.1	.0103	-60.9			304.7		
32	274.0	8844	15.1	.055	41.2	.0107	-62.0			305.6		
33	265.0	9050	16.5	.062	45.4	.0112	-62.8			307.5		
34	256.0	9262	31.6	.123	86.9	.0118	-63.0			310.3		
35	247.0	9481	33.8	.137	93.1	.0127	-63.7			312.3		
36	238.0	9708	34.1	.143	94.0	.0137	-63.9			315.3		
37	230.0	9917	40.6	.177	112.2	.0147	-63.9			318.4		
38	223.0	10106	44.2	.198	122.0	.0158	-63.9			321.3		
39	216.0	10301	51.8	.240	142.6	.0170	-63.3			325.1		
40	208.0	10532	52.7	.253	145.1	.0185	-63.5			328.3		
41	201.0	10742	55.8	.278	153.8	.0200	-63.7			331.2		
42	193.9	10962	56.2	.290	155.0	.0216	-63.7			334.7		
43	186.8	11190	55.7	.298	153.8	.0232	-63.9			337.9		
44	181.6	11363	58.8	.324	162.3	.0245	-63.9			340.7		
45	175.3	11579	59.5	.339	164.2	.0262	-63.9			344.1		
46	169.8	11774	59.9	.353	165.4	.0277	-63.9			347.3		
47	164.0	11986	60.8	.371	167.7	.0293	-63.9			350.7		
48	158.4	12198	59.3	.374	163.6	.0310	-63.9			354.2		
49	153.0	12410	57.5	.376	158.6	.0326	-63.9			357.8		

STATION: SOUTH POLE LAUNCH DATE: 11 NOV 86 217 Z ECC SONDE: 4A2483

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	147.8	12621	55.3	.374	152.8	.0341	-64.3			360.6		
51	142.7	12836	53.2	.373	146.4	.0356	-63.3			366.0		
52	137.5	13064	60.4	.439	166.4	.0373	-63.5			369.5		
53	132.6	13287	58.4	.440	160.4	.0390	-62.8			374.7		
54	128.0	13504	49.2	.384	135.1	.0405	-62.8			378.5		
55	123.7	13714	53.3	.431	146.2	.0419	-62.8			382.3		
56	119.2	13942	63.4	.532	173.8	.0436	-62.4			387.0		
57	115.0	14163	78.5	.683	215.1	.0456	-62.6			390.7		
58	110.7	14398	87.0	.786	238.7	.0481	-62.6			394.9		
59	106.7	14624	84.9	.796	232.8	.0506	-62.6			399.1		
60	103.0	14841	82.8	.804	226.8	.0529	-62.4			403.5		
61	98.3	15129	78.5	.799	215.5	.0559	-62.8			408.2		
62	95.2	15326	75.4	.792	207.5	.0578	-63.3			410.8		
63	92.0	15536	50.4	.548	137.7	.0595	-62.0			417.5		
64	88.9	15747	66.7	.750	182.4	.0611	-62.0			421.6		
65	85.8	15966	70.8	.825	193.2	.0630	-61.6			426.6		
66	82.8	16186	70.8	.855	192.9	.0650	-61.3			431.7		
67	79.8	16415	65.9	.826	178.6	.0670	-60.2			438.6		
68	76.7	16662	64.7	.844	175.4	.0690	-60.2			443.6		
69	73.7	16910	59.7	.810	161.6	.0710	-60.0			449.0		
70	70.8	17160	39.7	.561	107.5	.0726	-60.0			454.2		
71	68.3	17384	33.8	.495	91.3	.0736	-59.7			459.7		
72	66.0	17598	35.8	.542	96.6	.0746	-58.9			465.7		
73	63.8	17811	40.8	.639	109.1	.0756	-57.2			474.0		
74	61.5	18043	45.1	.733	120.0	.0768	-56.2			481.3		
75	59.2	18285	49.6	.838	131.3	.0782	-54.9			489.5		
76	57.4	18482	54.6	.951	143.6	.0795	-53.8			496.4		
77	55.4	18710	60.4	1.090	158.8	.0811	-53.5			502.2		
78	53.6	18922	67.5	1.259	177.3	.0828	-53.5			506.9		
79	51.8	19143	82.0	1.583	213.1	.0848	-51.0			517.7		
80	50.0	19374	92.2	1.844	236.7	.0872	-48.4			529.0		
81	47.9	19656	93.3	1.948	239.6	.0904	-48.2			535.9		
82	46.0	19922	94.0	2.043	240.6	.0934	-47.7			543.5		
83	44.1	20200	95.5	2.166	244.1	.0965	-47.2			551.2		
84	42.2	20491	99.3	2.353	253.0	.0999	-46.5			560.0		
85	40.2	20815	100.9	2.510	254.0	.1037	-43.9			574.2		

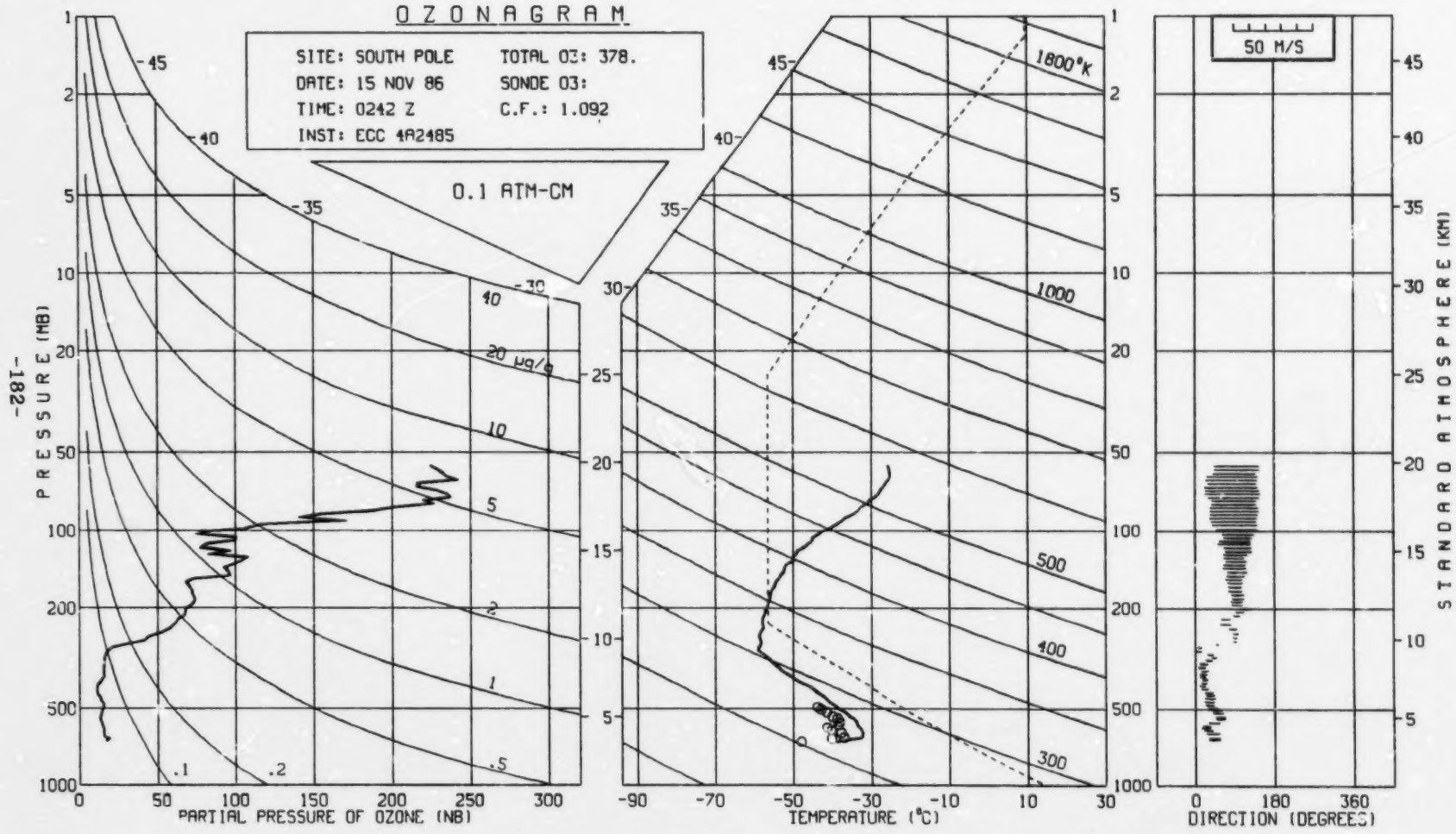
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.0	17.0	53.0	63.7	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

ISNNNYYMMJJGG	LSXXX XP T CORR	COMMENTS							
1110111118602	00237 99	ECC TOTAL O3 FROM SONDE DATA							
ISNNNYYMMJJGG	PPPP P3TTTDDDFFFPPPP	P3TTTDDDFFFPPPP		P3TTTDDDFFFPPPP		P3TTTDDDFFF	
1110211118602	680 23-43	500 12-40		300 18-59		200 56-64	
1110311118602	150 56-64	100 80-63		70 38-60		50 92-48	
1110411118602	665 14-33	649 14-30		570 11-33		291 24-60	
1110511118602	295 17-63	256 32-63		247 34-64		138 60-64	
1110611118602	128 49-63	111 87-63		95 75-63		92 50-62	
1110711118602	89 67-62	86 71-62		77 65-60		74 60-60	
1110811118602	66 36-59	54 68-54		42 99-47		40101-44	



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 15 NOV 86 242 Z ECC SONDE: 4A2485
SURFACE CONDITIONS: PRESSURE 672.8 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 72.4 ORD;
O3 ORD ZERO 30.6, BKGND 31.1, CAL 65.2, O3 BKGND .076 MICROAMP; FLOW RATE 26.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 378.; SONDE TOTAL O3 ; C.F. 1.092

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	673.0	2798	17.0	.025	42.0	.0000	-39.4	-48.2	39.1	261.8		
1	655.0	2985	18.7	.029	45.2	.0004	-35.2	-40.5	59.4	268.5	6.7	42.
2	648.0	3060	15.8	.024	38.0	.0005	-32.7	-37.4	63.9	272.2	6.7	42.
3	622.0	3348	15.4	.025	36.8	.0010	-32.5	-38.1	58.3	275.6	8.4	40.
4	607.0	3519	15.4	.025	36.9	.0013	-32.8	-40.5	47.0	277.2	5.6	29.
5	593.0	3683	15.1	.025	36.4	.0016	-33.5	-41.6	44.5	278.3	5.5	23.
6	580.0	3838	14.5	.025	34.9	.0019	-33.9	-38.8	62.3	279.6	5.1	25.
7	564.0	4034	13.9	.025	33.5	.0022	-34.0	-38.5	65.1	281.7	6.6	43.
8	545.0	4273	12.9	.024	31.1	.0025	-34.9	-39.1	66.7	283.3	5.4	57.
9	537.0	4375	13.4	.025	32.7	.0027	-36.0	-40.3	65.4	283.3	5.9	56.
10	516.0	4651	14.0	.027	34.2	.0031	-37.1	-41.8	62.6	285.2	6.5	51.
11	505.0	4799	14.5	.029	35.7	.0034	-38.4	-43.2	61.9	285.3	4.3	46.
12	493.0	4964	15.1	.031	37.1	.0037	-39.2	-44.1	60.9	286.3	5.1	38.
13	480.0	5146	15.4	.032	38.2	.0040	-40.3			287.2	5.4	32.
14	468.0	5318	13.8	.029	34.3	.0043	-41.4			287.9	6.1	31.
15	454.0	5523	13.1	.029	32.8	.0046	-42.1			289.5	6.2	33.
16	442.0	5703	11.6	.026	28.9	.0048	-43.4			290.1	5.1	33.
17	431.0	5872	11.0	.026	27.7	.0051	-44.5			290.8	4.9	30.
18	419.0	6060	11.0	.026	28.0	.0053	-45.5			291.9	4.1	21.
19	408.0	6236	11.6	.028	29.5	.0056	-46.8			292.4	3.5	15.
20	397.0	6416	13.2	.033	34.1	.0058	-48.6			292.4	3.6	19.
21	386.0	6600	14.5	.038	37.5	.0061	-49.8			293.2	3.1	22.
22	376.0	6771	15.8	.042	41.2	.0064	-50.8			294.0	3.4	15.
23	366.0	6946	15.5	.042	40.5	.0068	-52.1			294.6	4.3	18.
24	355.0	7143	15.5	.044	40.8	.0072	-53.3			295.5	4.5	21.
25	343.0	7363	15.5	.045	40.8	.0076	-54.4			296.9	4.7	14.
26	331.0	7590	16.1	.048	42.5	.0080	-55.4			298.6	4.9	18.
27	320.0	7805	16.1	.050	42.7	.0084	-56.3			300.4	3.8	31.
28	311.0	7985	16.1	.052	42.8	.0088	-56.9			301.9	3.2	43.
29	302.0	8170	17.0	.056	45.9	.0092	-58.1			302.8	3.5	33.
30	293.0	8360	18.1	.062	48.9	.0096	-59.3			303.7	2.8	8.
31	284.0	8555	21.3	.075	57.4	.0101	-59.0			306.9	2.2	9.
32	275.0	8757	32.1	.117	86.5	.0108	-58.5			310.5	1.7	50.
33	267.0	8942	41.3	.155	111.2	.0116	-58.5			313.1	2.2	90.
34	258.0	9157	43.9	.170	118.3	.0128	-59.0			315.4	2.5	90.
35	249.0	9379	52.1	.209	140.1	.0141	-58.8			318.9	2.9	92.
36	239.0	9636	58.0	.243	155.6	.0159	-57.9			324.0	4.9	86.
37	230.0	9877	61.2	.266	164.0	.0177	-58.1			327.3	6.8	68.
38	219.0	10185	63.6	.290	170.6	.0201	-58.1			331.9	5.6	70.
39	212.0	10389	67.7	.319	181.3	.0218	-57.6			335.8	3.9	94.
40	206.0	10570	67.9	.330	181.9	.0233	-57.4			338.8	4.8	102.
41	201.0	10725	67.8	.337	181.3	.0247	-57.3			341.5	4.5	119.
42	199.2	10781	70.1	.352	187.3	.0251	-56.9			342.9	5.0	110.
43	193.4	10968	72.3	.374	193.0	.0268	-56.8			346.1	6.8	95.
44	187.6	11161	73.8	.393	196.7	.0286	-56.4			349.6	7.1	94.
45	181.8	11360	73.8	.406	196.6	.0304	-56.3			353.0	7.5	97.
46	176.0	11566	72.4	.411	192.6	.0323	-56.1			356.6	7.9	96.
47	170.4	11771	72.3	.424	192.0	.0341	-55.8			360.5	8.2	91.
48	164.7	11987	70.4	.428	186.4	.0360	-55.1			365.1	8.4	90.
49	158.9	12216	68.3	.430	180.5	.0380	-54.8			369.4	9.1	90.

STATION: SOUTH POLE LAUNCH DATE: 15 NOV 86 242 Z ECC SONDE: 4A2485

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	154.1	12412	72.9	.473	192.3	0397	-54.1			373.7	10.4	87.
51	149.4	12611	96.5	.646	253.7	.0418	-53.5			378.2	10.8	92.
52	144.6	12821	95.6	.661	250.1	.0442	-52.7			383.1	12.0	95.
53	139.8	13039	92.8	.664	243.0	.0467	-52.5			387.1	14.4	89.
54	135.7	13231	98.9	.729	258.1	.0490	-51.9			391.5	13.7	90.
55	131.8	13420	103.7	.787	268.9	.0513	-50.2			397.8	12.7	93.
56	128.0	13610	107.3	.839	278.2	.0538	-50.4			400.8	12.8	88.
57	124.3	13801	84.2	.677	217.4	.0560	-49.6			405.6	15.1	91.
58	120.5	14004	95.1	.789	245.0	.0582	-49.2			410.0	16.2	98.
59	116.7	14214	78.1	.669	199.8	.0604	-47.5			416.8	16.9	96.
60	112.8	14439	82.0	.727	208.8	.0625	-46.2			423.3	20.6	89.
61	109.5	14636	100.0	.913	253.6	.0646	-45.5			428.3	19.2	90.
62	106.3	14833	100.5	.945	254.4	.0670	-45.2			432.5	17.4	96.
63	103.2	15031	75.9	.735	191.2	.0691	-43.8			438.8	19.7	98.
64	100.3	15222	82.9	.826	207.7	.0708	-42.7			444.6	21.8	96.
65	98.7	15330	104.2	1.055	259.1	.0720	-41.2			449.6	25.8	94.
66	94.4	15633	116.7	1.237	288.2	.0759	-39.2			459.1	28.2	90.
67	91.6	15839	166.5	1.818	408.7	.0793	-37.9			465.8	28.2	87.
68	88.7	16051	142.8	1.610	348.9	.0832	-36.8			472.2	29.6	86.
69	86.1	16267	154.6	1.796	374.9	.0867	-34.9			480.1	29.5	88.
70	83.5	16481	187.6	2.247	452.1	.0908	-33.6			487.0	30.4	89.
71	80.9	16703	201.7	2.493	485.1	.0957	-33.1			492.5	30.2	89.
72	78.7	16897	225.8	2.869	539.8	.1003	-31.6			499.4	28.2	88.
73	76.4	17107	220.8	2.890	526.0	.1056	-30.8			505.3	28.2	88.
74	74.2	17315	237.0	3.194	561.2	.1108	-29.4			512.6	32.0	87.
75	71.9	17540	234.6	3.262	553.1	.1167	-28.3			519.5	34.8	85.
76	69.8	17752	227.5	3.259	535.4	.1221	-27.9			524.7	33.9	84.
77	67.9	17950	215.8	3.178	506.5	.1269	-27.2			530.3	33.5	82.
78	65.9	18165	216.4	3.284	506.9	.1320	-26.6			536.3	30.3	83.
79	64.0	18376	240.8	3.762	562.4	.1373	-25.9			542.2	32.3	82.
80	62.0	18606	234.8	3.787	547.1	.1433	-25.4			548.4	32.4	84.
81	60.1	18831	232.2	3.863	541.4	.1490	-25.5			553.0	26.6	89.
82	58.2	19063	228.9	3.933	534.0	.1548	-25.7			557.8	28.2	94.
83	56.3	19303	224.4	3.986	524.1	.1608	-25.9			562.5	28.2	94.

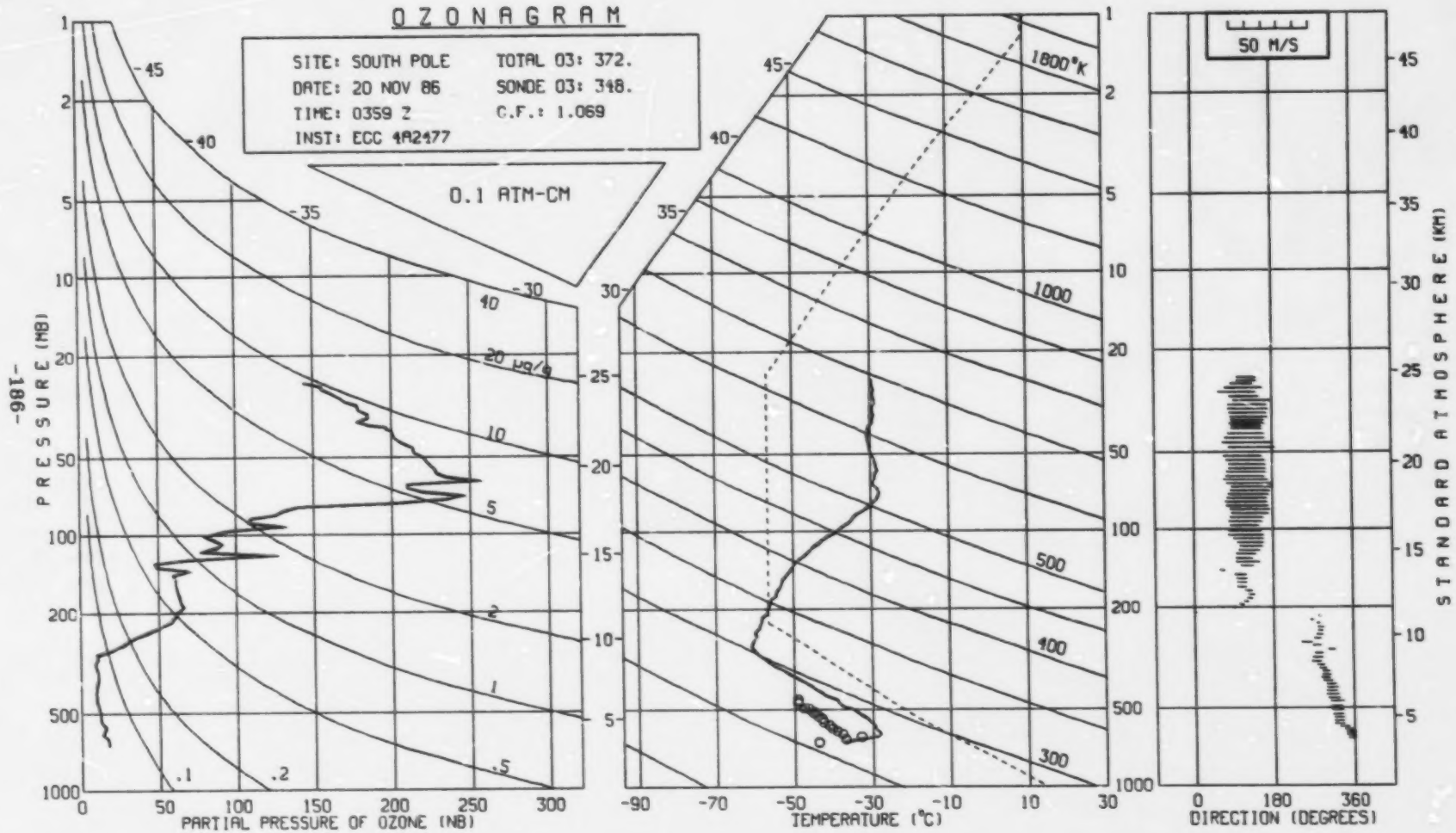
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.9	19.2	76.0	157.6	999.9	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110115118603   00378   991.092   ECC    TOTAL O3 FROM SONDE DATA
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110215118603    673 17-39        500 15-39 43  5 300 17-58 28  3 200 69-57114  5
1110315118603    150 93-54 91 11 100 87-42 96 23  70228-28 84 34 648 16-33 42  7
1110415118603    622 15-33 40  8 239 58-58 86  5 159 68-55 90  9 154 73-54 87 10
1110515118603    140 93-53 89 14 128107-50 88 13 124 84-50 91 15 121 95-49 98 16
1110615118603    117 78-48 96 17 113 82-46 89 21 110100-46 90 19 106100-45 96 17
1110715118603    103 76-44 98 20  99104-41 94 26  94117-39 90 28  92167-38 87 28
1110815118603     89143-37 86 30  86155-35 88 30  84188-34 89 30  81202-33 89 30
1110915118603     79226-32 88 28  76221-31 88 28  74237-29 87 32  68216-27 82 34
1111015118603     66216-27 83 30  64241-26 82 32  56224-26 94 28
```



BEST COPY AVAILABLE

186

STATION: SOUTH POLE LAUNCH DATE: 20 NOV 86 359 Z ECC SONDE: 4A2477
SURFACE CONDITIONS: PRESSURE 673.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 72.8 ORD;
O3 ORD ZERO 20.0, BKGND 20.1, CAL 52.5; O3 BKGND .016 MICROAMP; FLOW RATE 28.4 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 372.; SONDE TOTAL O3 348.; C.F. 1.069

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	673.9	2800	17.4	.026	42.5	.0000	-37.6	-44.1	51.5	263.7		
1	655.0	2997	17.4	.027	42.1	.0004	-33.7	-37.3	70.9	270.2	5.3	353.
2	639.0	3172	16.9	.026	40.0	.0007	-28.9	-33.2	67.3	277.6	5.3	353.
3	622.0	3365	16.2	.026	38.4	.0011	-28.3	-38.1	38.9	280.5	5.9	354.
4	606.0	3551	13.2	.022	31.3	.0014	-28.9	-39.5	35.6	281.8	6.0	349.
5	590.0	3742	14.0	.024	33.1	.0017	-29.6	-40.7	33.6	283.2	6.2	338.
6	573.0	3950	15.3	.027	36.1	.0020	-29.7	-41.5	31.2	285.4	6.0	327.
7	557.0	4151	15.2	.027	36.2	.0023	-30.9	-43.0	29.9	286.3	5.8	326.
8	541.0	4357	12.7	.024	30.5	.0027	-31.4	-43.3	30.2	288.1	6.1	327.
9	526.5	4548	12.2	.023	29.2	.0029	-32.9	-44.4	30.9	288.6	6.7	324.
10	510.0	4771	12.2	.024	29.4	.0032	-34.4	-45.5	31.9	289.5	7.4	323.
11	495.0	4979	12.1	.024	29.5	.0035	-35.7	-46.7	31.9	290.3	4.9	316.
12	492.5	5014	11.5	.023	28.1	.0036	-37.3	-48.0	32.2	288.8	6.4	321.
13	471.0	5321	11.0	.023	27.0	.0040	-38.9	-49.4	32.5	290.4	8.5	322.
14	458.0	5512	10.4	.023	25.4	.0042	-39.2	-49.3	33.8	292.4	7.2	315.
15	443.0	5738	9.7	.022	24.4	.0045	-42.2			291.4	7.4	312.
16	430.0	5938	9.8	.023	24.6	.0047	-43.4			292.5	7.1	310.
17	417.0	6143	9.2	.022	23.2	.0049	-44.9			293.1	6.9	312.
18	403.5	6362	9.8	.024	24.9	.0052	-46.1			294.3	6.2	309.
19	392.0	6553	9.8	.025	25.0	.0054	-47.5			294.9	5.6	301.
20	381.0	6740	10.4	.027	26.7	.0056	-49.0			295.3	5.6	296.
21	371.0	6914	11.0	.030	28.6	.0059	-50.3			295.8	5.3	299.
22	360.0	7109	11.0	.031	28.7	.0061	-52.0			296.1	4.6	298.
23	350.0	7290	11.0	.031	28.8	.0064	-53.3			296.6	4.3	291.
24	339.5	7485	10.4	.031	27.4	.0066	-55.1			297.0	4.5	285.
25	329.0	7685	9.7	.030	25.9	.0069	-56.4			297.8	5.9	276.
26	318.0	7900	9.1	.029	24.4	.0071	-57.7			298.8	5.9	279.
27	307.5	8111	10.9	.035	29.3	.0074	-59.3			299.5	4.8	282.
28	297.0	8328	10.3	.035	27.7	.0077	-60.2			301.3	4.3	311.
29	287.0	8541	19.2	.067	52.4	.0081	-61.1			302.9	5.1	277.
30	279.0	8716	23.4	.084	63.8	.0085	-60.9			305.7	6.5	255.
31	270.0	8920	28.1	.104	76.4	.0092	-60.4			309.3	4.3	279.
32	260.0	9155	32.2	.124	87.2	.0101	-59.8			313.5	3.7	284.
33	251.0	9374	37.0	.147	100.1	.0111	-60.2			316.1	3.2	286.
34	243.0	9576	43.3	.178	116.8	.0121	-59.1			320.6	3.5	287.
35	234.0	9812	48.9	.209	131.9	.0135	-58.9			324.4	2.5	281.
36	226.0	10030	53.2	.235	143.1	.0149	-58.4			328.4	1.7	267.
37	218.0	10256	58.2	.267	156.4	.0165	-58.4			331.8	1.1	284.
38	210.0	10491	60.3	.287	160.9	.0182	-57.1			337.5	.6	3.
39	201.0	10768	61.8	.307	165.0	.0203	-56.9			342.0	1.4	90.
40	195.5	10943	64.1	.328	171.1	.0217	-56.6			345.3	2.0	108.
41	189.6	11137	66.2	.349	176.2	.0233	-56.2			348.9	2.2	118.
42	183.6	11341	64.5	.352	171.6	.0249	-56.1			352.4	3.2	126.
43	177.6	11552	63.9	.360	168.7	.0266	-54.7			357.9	3.9	130.
44	171.6	11771	63.5	.370	167.7	.0283	-54.6			361.7	4.4	124.
45	165.6	11999	62.4	.377	164.2	.0301	-53.9			366.4	5.0	108.
46	159.7	12232	61.8	.387	162.2	.0319	-53.3			371.3	5.8	108.
47	154.1	12461	61.2	.397	160.6	.0336	-53.1			375.4	6.5	108.
48	148.6	12695	61.2	.412	160.0	.0354	-52.2			381.0	6.8	106.
49	143.0	12944	59.6	.417	155.1	.0372	-51.3			386.8	2.3	64.

STATION: SOUTH POLE LAUNCH DATE: 20 NOV 86 359 Z ECC SONDE: 4A2477

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	137.8	13185	69.6	.505	180.4	.0391	-50.5			392.3	7.7	121.
51	133.3	13401	49.2	.369	126.9	.0406	-49.9			397.1	14.6	122.
52	128.7	13631	48.0	.373	123.4	.0420	-48.8			403.0	10.2	114.
53	124.2	13855	70.1	.564	179.2	.0436	-47.4			409.8	12.0	119.
54	120.0	14093	121.1	1.009	308.1	.0462	-46.3			415.7	13.4	126.
55	116.0	14318	78.9	.680	199.8	.0489	-45.5			421.3	13.9	130.
56	112.1	14546	88.2	.786	221.9	.0512	-43.9			428.4	16.7	128.
57	108.4	14771	91.1	.841	228.6	.0535	-42.8			434.6	18.6	124.
58	104.9	14993	85.9	.819	213.9	.0558	-41.4			441.4	22.1	118.
59	101.4	15224	80.5	.793	198.7	.0581	-39.3			449.6	20.2	115.
60	97.8	15528	94.1	.970	230.9	.0611	-37.7			458.6	18.1	115.
61	93.8	15760	129.4	1.380	315.2	.0641	-36.1			466.1	21.1	117.
62	90.4	16016	108.1	1.196	262.1	.0675	-35.0			473.2	21.2	120.
63	87.2	16267	109.1	1.251	263.6	.0706	-34.2			479.7	23.2	127.
64	84.3	16504	126.0	1.494	302.2	.0738	-32.4			488.1	24.9	128.
65	81.4	16751	130.5	1.603	311.3	.0773	-31.0			495.8	26.4	122.
66	78.6	16999	140.3	1.785	332.6	.0810	-29.7			503.5	26.3	120.
67	75.9	17248	201.9	2.661	477.1	.0858	-28.8			510.5	25.5	121.
68	73.3	17497	234.6	3.201	553.2	.0918	-28.3			516.7	25.4	125.
69	70.9	17735	245.3	3.460	577.7	.0981	-28.0			522.2	25.2	129.
70	68.4	17992	219.7	3.212	518.1	.1047	-28.4			526.7	25.5	132.
71	66.1	18236	209.9	3.175	497.5	.1105	-29.6			529.3	28.7	126.
72	63.9	18477	210.2	3.289	498.2	.1161	-29.6			534.5	27.8	119.
73	61.8	18715	253.9	4.108	600.8	.1222	-29.2			540.5	24.1	118.
74	59.7	18962	234.5	3.929	554.7	.1288	-29.1			546.1	24.8	120.
75	57.7	19205	228.7	3.963	539.4	.1351	-28.4			553.0	23.7	123.
76	55.7	19457	227.6	4.086	537.9	.1414	-28.9			557.3	23.2	122.
77	53.7	19718	224.2	4.175	530.4	.1479	-29.1			562.9	24.6	119.
78	51.9	19961	222.3	4.282	526.2	.1539	-29.3			567.8	24.3	112.
79	50.1	20212	220.2	4.396	522.7	.1601	-29.9			572.3	23.4	125.
80	48.2	20487	214.2	4.445	509.6	.1667	-30.4			577.4	29.4	133.
81	46.2	20788	213.6	4.623	508.3	.1739	-30.5			584.1	30.1	121.
82	44.4	21070	206.7	4.654	492.6	.1805	-30.9			589.8	24.9	117.
83	42.6	21363	202.2	4.746	482.0	.1872	-31.0			596.5	23.0	120.
84	40.8	21669	200.6	4.916	477.6	.1940	-30.8			604.6	19.3	120.
85	39.9	21827	200.2	5.019	476.7	.1975	-30.6			608.8	19.1	122.
86	39.1	21970	196.6	5.028	467.7	.2007	-30.5			612.6	22.0	123.
87	38.5	22080	196.9	5.115	466.9	.2031	-29.7			617.4	18.5	124.
88	37.9	22192	186.2	4.914	441.5	.2055	-29.6			620.5	20.8	124.
89	36.7	22421	178.5	4.865	423.0	.2101	-29.5			626.6	23.3	127.
90	35.5	22658	185.2	5.216	438.4	.2149	-29.3			632.9	23.7	125.
91	34.3	22903	184.9	5.389	438.2	.2199	-29.6			638.4	25.4	125.
92	33.1	23157	178.9	5.404	424.1	.2250	-29.6			645.0	24.2	124.
93	32.0	23398	178.1	5.566	421.3	.2298	-29.1			652.6	24.0	135.
94	30.9	23647	170.3	5.512	403.3	.2346	-29.3			658.5	18.7	116.
95	29.8	23905	166.9	5.601	395.6	.2394	-29.6			664.6	24.0	100.
96	28.5	24223	160.7	5.639	380.5	.2452	-29.3			673.9	23.6	115.
97	27.6	24452	155.7	5.641	369.1	.2492	-29.6			679.3	14.1	111.
98	26.9	24635	155.4	5.776	368.4	.2523	-29.7			684.0	12.1	122.
99	26.0	24877	144.1	5.544	341.9	.2564	-29.7			690.6	12.1	122.

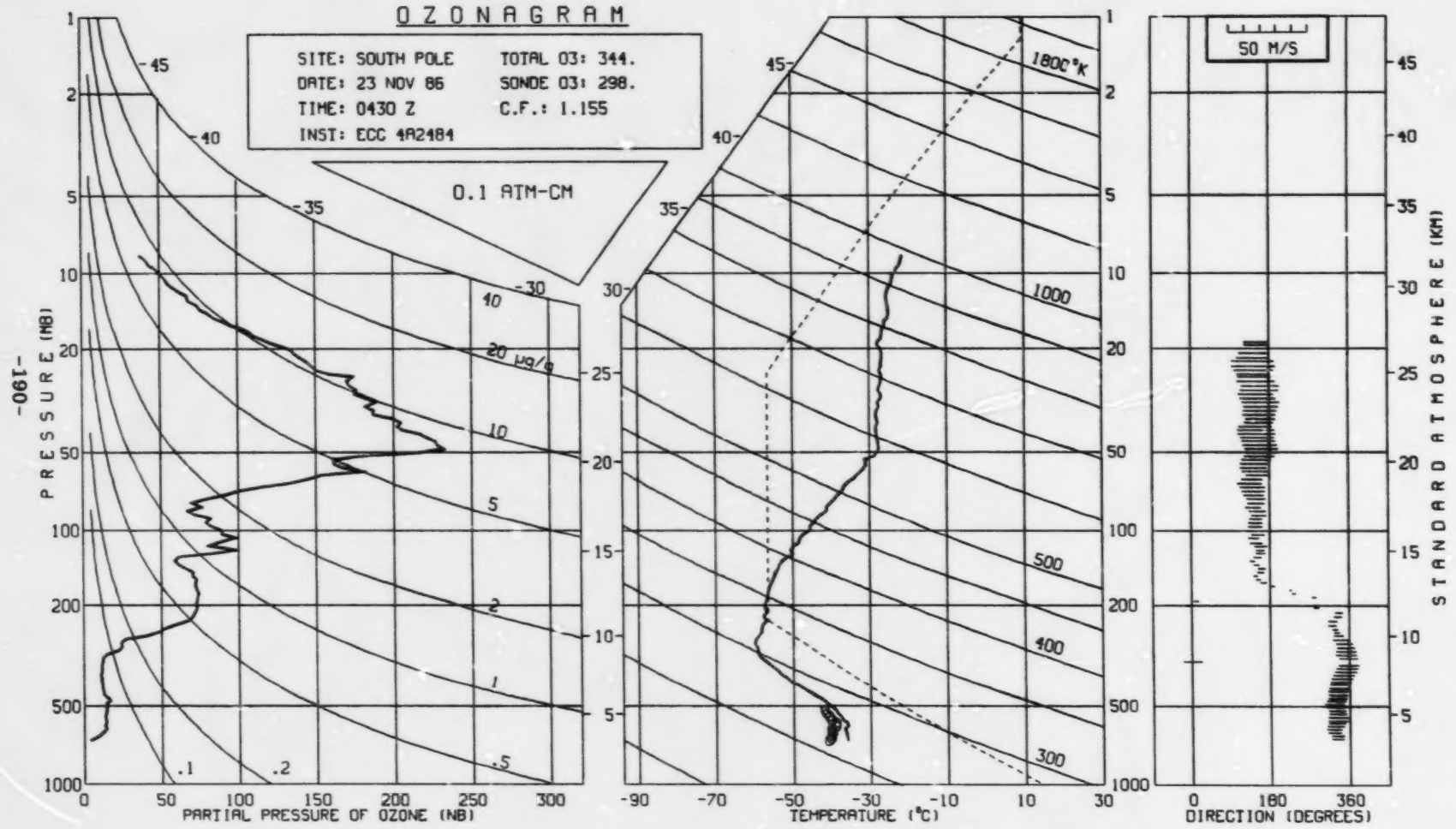
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.6	14.2	58.8	140.4	206.4	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110120118604   00372   991.069   ECC    TOTAL O3 FROM SONDE DATA  348
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110220118604    674 17-38       500 12-35318  6 300 10-60303  4 200 62-57 93  2
1110320118604    150 61-52107  7 100 85-39115 20  70236-28130 25  50220-30125 24
1110420118604     30168-30103 23 639 17-29 -7  5 622 16-28 -6  6 251 37-60286  3
1110520118604    143 60-51 64  2 138 70-51121  8 133 49-50122 15 129 48-49114 10
1110620118604    124 70-47119 12 120121-46126 13 116 79-46130 14 108 91-43124 19
1110720118604     97 94-38115 18  94129-36117 21  90108-35120 21  87109-34127 23
1110820118604     84126-32128 25  79140-30120 26  76202-29121 26  73235-28125 25
1110920118604     71245-28129 25  66210-30126 29  64210-30119 28  62254-29118 24
1111020118604     60235-29120 25  58229-28123 24  39197-30124 19  37179-30127 23
1111120118604     34185-30125 2526.0144-30122 12
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 23 NOV 86 430 Z ECC SONDE: 4A2484
SURFACE CONDITIONS: PRESSURE 680.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.3 ORD;
O3 ORD ZERO 29.2, BKGND 29.6, CAL 65.2; O3 BKGND .058 MICROAMP; FLOW RATE 27.8 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 344.; SONDE TOTAL O3 298.; C.F. 1.155

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	680.7	2800	3.8	.006	9.2	.0000	-36.2	-41.1	61.8	264.5		
1	665.0	2961	6.8	.010	16.5	.0001	-36.2	-40.5	65.7	266.2	7.9	333.
2	649.0	3129	9.8	.015	23.8	.0003	-36.4	-40.3	68.2	267.9	7.9	333.
3	632.0	3313	12.1	.019	29.6	.0005	-36.5	-40.1	70.3	269.8	8.1	325.
4	614.5	3507	14.4	.024	35.2	.0008	-36.8	-40.3	71.4	271.7	8.8	325.
5	599.0	3684	13.4	.022	32.5	.0011	-36.1	-39.2	74.1	274.4	10.3	328.
6	583.0	3871	14.1	.024	34.4	.0014	-36.2	-39.1	76.2	276.4	10.9	331.
7	568.5	4045	14.1	.025	34.7	.0016	-37.3	-40.3	74.6	277.2	12.0	334.
8	550.5	4267	13.5	.025	33.3	.0020	-37.8	-41.0	73.4	279.1	12.1	334.
9	535.0	4463	14.1	.026	34.8	.0023	-38.7	-41.8	73.4	280.4	10.7	333.
10	520.0	4658	14.2	.027	34.9	.0026	-39.1	-42.2	73.3	282.2	10.9	331.
11	505.0	4858	14.7	.029	36.5	.0029	-40.3			283.1	11.5	328.
12	491.0	5049	14.1	.029	35.1	.0033	-41.3			284.2	11.4	326.
13	477.0	5245	16.8	.035	41.7	.0036	-42.2			285.3	11.3	329.
14	463.0	5445	14.9	.032	37.6	.0040	-43.4			286.4	11.4	333.
15	449.0	5650	12.5	.028	31.7	.0043	-44.9			286.9	11.5	334.
16	435.0	5861	12.5	.029	31.9	.0046	-46.3			287.7	11.8	334.
17	422.0	6061	11.8	.028	30.4	.0049	-47.8			288.3	12.8	337.
18	407.0	6299	11.8	.029	30.5	.0053	-49.3			289.4	12.8	339.
19	397.0	6461	11.4	.029	29.6	.0055	-51.0			289.3	12.8	341.
20	384.0	6677	11.4	.030	29.7	.0058	-51.9			290.9	13.3	343.
21	373.0	6864	11.0	.029	28.9	.0060	-53.3			291.4	13.0	347.
22	362.0	7056	11.6	.032	30.5	.0063	-54.1			292.9	13.6	352.
23	351.0	7253	11.6	.033	30.5	.0066	-55.1			294.1	13.7	355.
24	341.0	7437	11.6	.034	30.6	.0069	-56.4			294.8	12.9	359.
25	331.0	7625	12.1	.037	32.5	.0071	-57.4			295.9	11.8	1.
26	321.0	7818	12.1	.038	32.6	.0074	-58.6			296.9	11.9	358.
27	311.0	8016	14.4	.046	38.9	.0078	-59.3			298.6	13.0	353.
28	301.0	8220	22.0	.073	59.3	.0082	-59.3			301.4	12.6	353.
29	292.0	8410	24.7	.085	66.9	.0088	-59.5			303.8	10.9	353.
30	282.0	8627	24.1	.086	65.4	.0095	-60.2			305.8	10.0	349.
31	272.0	8852	26.6	.098	72.0	.0102	-59.8			309.5	9.1	340.
32	262.0	9086	40.8	.156	110.0	.0112	-59.1			313.8	6.1	336.
33	254.0	9280	48.5	.191	130.6	.0123	-58.4			317.6	3.2	333.
34	247.0	9455	51.9	.210	139.6	.0134	-58.4			320.2	3.2	328.
35	239.0	9662	58.0	.243	155.7	.0148	-58.1			323.7	4.8	322.
36	230.0	9904	67.4	.293	180.0	.0167	-57.2			328.6	5.2	323.
37	221.0	10156	70.5	.319	188.9	.0189	-57.9			331.3	4.8	334.
38	213.0	10388	71.6	.336	191.3	.0209	-57.1			336.2	4.6	337.
39	204.0	10661	73.4	.360	196.5	.0234	-57.4			339.8	2.8	286.
40	200.0	10786	71.9	.359	192.4	.0245	-57.6			341.5	.4	340.
41	193.0	11011	73.4	.380	196.1	.0266	-57.2			345.5	2.6	10.
42	186.2	11238	73.6	.395	196.6	.0287	-56.9			349.6	2.6	281.
43	180.2	11445	74.1	.411	197.6	.0306	-56.7			353.2	1.8	234.
44	174.3	11656	73.0	.419	194.6	.0325	-56.6			356.8	1.1	227.
45	168.3	11878	72.2	.429	192.4	.0345	-56.2			361.0	2.5	186.
46	162.7	12093	72.1	.443	191.6	.0364	-55.9			365.0	3.8	165.
47	157.4	12303	72.9	.463	193.2	.0383	-55.4			369.3	2.6	153.
48	152.1	12521	69.9	.460	185.0	.0403	-55.1			373.5	2.2	147.
49	146.8	12747	70.7	.482	186.9	.0422	-54.7			377.9	3.8	159.

STATION: SOUTH POLE LAUNCH DATE: 23 NOV 86 430 Z ECC SONDE: 4A2484

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	141.7	12973	66.0	.466	173.9	.0441	-54.1			382.9	4.3	161.
51	136.8	13198	61.5	.449	161.9	.0459	-53.8			387.3	3.2	149.
52	131.9	13432	58.8	.446	154.5	.0476	-53.1			392.5	3.3	140.
53	127.0	13676	61.5	.484	160.3	.0494	-51.6			399.6	4.8	152.
54	122.6	13905	83.8	.683	216.9	.0515	-50.2			406.1	5.6	159.
55	118.7	14115	98.0	.825	254.4	.0538	-50.8			408.8	5.4	158.
56	114.8	14332	81.0	.706	209.7	.0561	-50.2			413.8	8.0	159.
57	111.8	14505	86.3	.772	222.2	.0579	-48.8			419.5	7.5	149.
58	107.2	14781	98.2	.916	252.2	.0609	-48.4			425.4	6.3	143.
59	103.6	15006	89.4	.863	229.0	.0635	-47.7			431.0	7.9	153.
60	100.0	15240	89.2	.892	226.7	.0660	-45.9			438.7	8.3	153.
61	96.6	15470	82.4	.853	209.1	.0683	-45.9			443.1	8.6	147.
62	93.4	15694	78.9	.845	199.5	.0705	-44.8			449.6	8.9	147.
63	90.3	15920	82.1	.910	207.0	.0726	-44.1			455.4	8.1	148.
64	87.3	16147	71.9	.823	180.4	.0746	-43.1			461.8	9.2	155.
65	84.4	16375	67.4	.798	167.8	.0765	-41.3			470.0	10.5	152.
66	81.4	16620	76.6	.941	190.9	.0786	-41.3			474.8	9.5	142.
67	78.5	16866	69.9	.890	173.4	.0807	-40.3			481.8	10.5	149.
68	75.6	17123	80.5	1.065	198.7	.0829	-39.1			489.6	12.2	149.
69	73.2	17344	92.2	1.260	226.6	.0851	-38.4			495.5	12.8	144.
70	70.7	17583	99.4	1.405	243.1	.0877	-37.2			503.1	14.3	143.
71	68.3	17821	115.1	1.685	281.3	.0906	-36.9			508.6	15.8	141.
72	66.1	18048	133.6	2.021	325.2	.0938	-36.0			515.5	15.5	135.
73	63.9	18283	145.0	2.269	350.9	.0976	-34.5			523.7	13.1	140.
74	61.7	18528	153.7	2.491	370.2	.1017	-33.4			531.3	15.3	154.
75	59.7	18759	180.4	3.021	432.6	.1060	-32.4			538.7	17.4	149.
76	57.7	18999	167.4	2.901	400.2	.1107	-31.6			545.8	17.1	143.
77	55.7	19248	161.8	2.904	385.7	.1153	-31.0			552.5	17.4	146.
78	53.8	19493	161.3	2.998	385.2	.1197	-31.4			557.1	18.4	151.
79	52.0	19735	178.3	3.428	421.5	.1243	-28.9			568.4	19.2	157.
80	50.2	19987	215.7	4.297	508.5	.1298	-28.3			575.7	19.5	162.
81	48.5	20234	232.3	4.791	546.6	.1358	-27.7			582.7	20.8	162.
82	46.9	20475	228.1	4.863	537.1	.1419	-28.0			587.6	21.7	159.
83	45.1	20756	226.8	5.029	534.2	.1490	-28.0			594.2	21.2	155.
84	43.5	21015	220.7	5.073	520.4	.1553	-28.3			599.8	21.4	152.
85	42.1	21249	216.8	5.148	511.4	.1610	-28.4			605.1	23.8	151.
86	40.6	21509	205.4	5.060	484.8	.1670	-28.5			611.0	23.8	149.
87	39.3	21742	202.2	5.145	477.2	.1723	-28.5			616.7	20.7	148.
88	38.0	21983	204.7	5.388	482.1	.1777	-28.0			624.0	18.5	156.
89	36.8	22213	198.5	5.422	470.5	.1828	-28.3			629.1	18.6	160.
90	35.5	22470	186.8	5.263	441.0	.1883	-28.5			634.9	20.7	157.
91	34.3	22716	187.1	5.454	441.4	.1933	-28.4			641.5	21.0	159.
92	33.1	22971	181.9	5.494	427.7	.1985	-27.7			649.9	21.8	161.
93	31.9	23236	188.8	5.918	444.9	.2039	-28.1			655.7	23.8	160.
94	30.8	23488	182.2	5.916	427.8	.2091	-27.2			664.8	21.8	154.
95	29.8	23725	174.7	5.862	410.0	.2137	-27.2			671.1	22.0	149.
96	28.7	23995	176.1	6.135	414.8	.2189	-28.0			676.2	24.2	158.
97	27.6	24275	171.9	6.229	404.4	.2243	-27.6			684.9	23.7	159.
98	26.5	24567	170.0	6.413	399.0	.2298	-27.2			694.0	23.8	150.
99	25.5	24844	174.2	6.833	408.9	.2350	-27.1			702.0	20.9	146.
100	24.9	25015	159.2	6.394	373.5	.2381	-27.1			706.8	20.6	144.
101	24.0	25280	149.9	6.244	352.4	.2426	-27.6			712.8	24.5	145.
102	23.2	25524	147.9	6.375	347.1	.2466	-27.1			721.2	27.5	144.
103	22.2	25841	143.4	6.459	336.3	.2516	-27.1			730.4	26.6	142.
104	21.6	26038	140.1	6.488	328.5	.2547	-26.9			736.5	20.2	142.

STATION: SOUTH POLE LAUNCH DATE: 23 NOV 86 430 Z ECC SONDE: 4A2484

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	20.8	26310	135.9	6.532	318.7	.2583	-26.9			744.5	17.8	144.
106	20.0	26592	133.7	6.684	313.8	.2630	-27.2			752.1	17.6	150.
107	19.3	26848	124.9	6.471	294.3	.2666	-28.1			756.9	15.9	152.
108	18.8	27036	120.2	6.391	282.8	.2692	-27.9			763.4	15.9	152.
109	18.2	27269	115.0	6.317	269.8	.2722	-27.1			773.0		
110	17.7	27469	110.2	6.227	258.6	.2747	-26.9			779.6		
111	17.1	27717	107.5	6.284	251.9	.2776	-26.9			787.3		
112	16.5	27974	102.6	6.218	240.3	.2806	-26.7			796.3		
113	16.0	28196	96.1	6.008	224.7	.2830	-26.2			805.0		
114	15.4	28472	90.7	5.889	212.0	.2858	-26.3			813.4		
115	14.9	28711	84.9	5.699	197.8	.2881	-25.4			824.2		
116	14.2	29060	80.4	5.663	187.3	.2912	-25.1			836.5		
117	13.8	29267	76.1	5.517	177.4	.2930	-25.2			842.9		
118	13.2	29589	74.2	5.619	172.7	.2956	-25.4			853.3		
119	12.7	29869	68.4	5.386	159.6	.2978	-25.6			861.8		
120	12.1	30219	67.6	5.586	157.8	.3004	-25.8			873.3		
121	11.8	30400	63.5	5.385	148.1	.3017	-25.6			880.1		
122	11.3	30714	58.6	5.184	136.6	.3038	-25.2			892.5		
123	11.0	30909	55.8	5.073	129.6	.3050	-24.6			901.8		
124	10.5	31247	53.4	5.084	123.9	.3070	-24.2			915.3		
125	10.1	31530	50.5	4.999	117.0	.3086	-24.0			926.0		
126	9.9	31713	48.9	4.962	113.0	.3096	-23.4			935.1		
127	9.5	31962	46.3	4.867	106.9	.3109	-23.0			945.8		
128	9.3	32133	43.4	4.671	100.2	.3117	-22.4			954.2		
129	9.1	32333	42.4	4.685	97.5	.3126	-22.0			963.2		
130	8.8	32522	40.9	4.637	93.9	.3135	-21.9			970.8		
131	8.6	32690	38.6	4.477	88.6	.3142	-21.8			977.7		
132	8.6	32732	37.9	4.422	87.0	.3143	-21.6			979.8		
133	8.5	32792	37.3	4.390	85.7	.3146	-21.6			982.1		

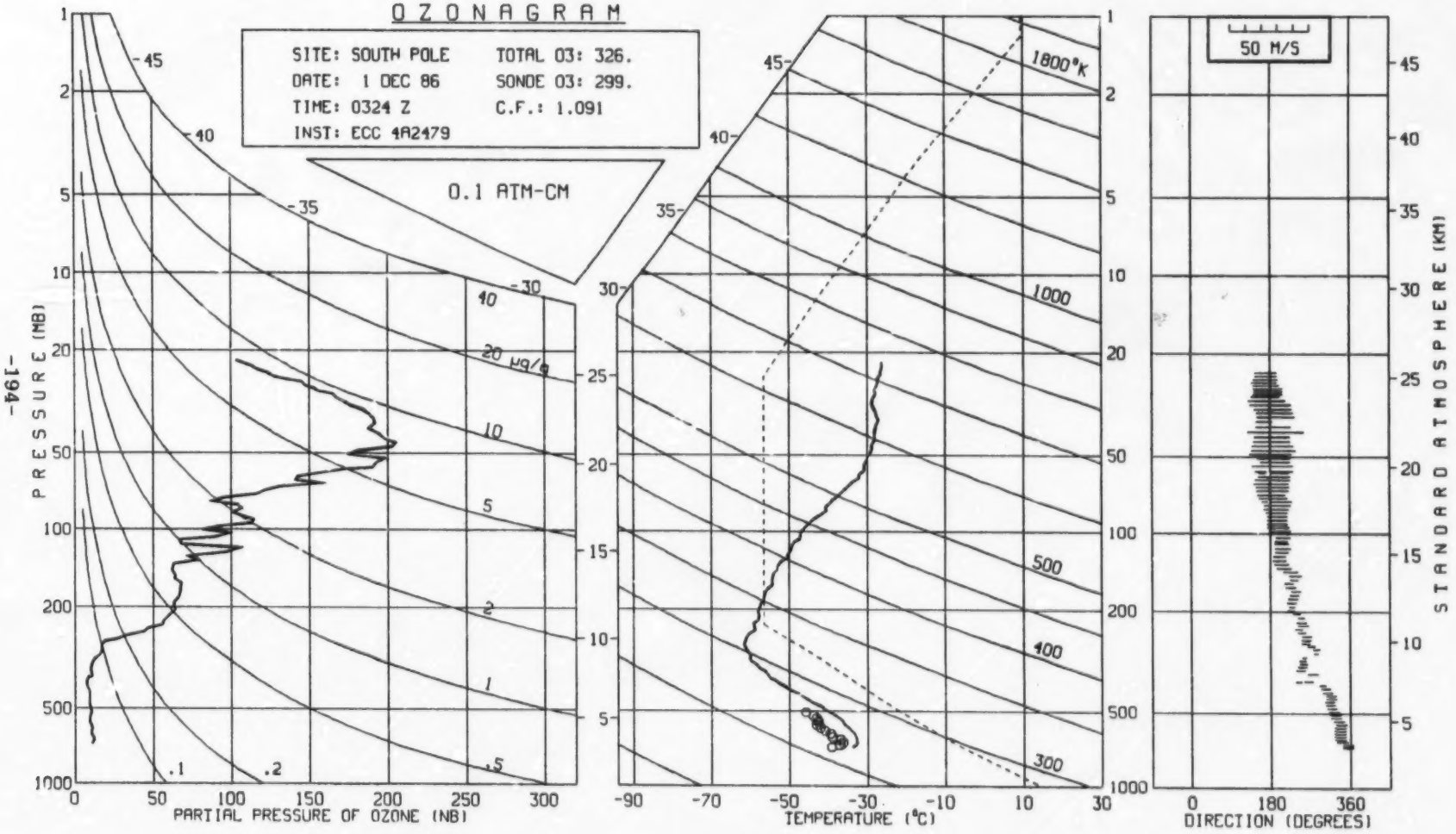
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
12.6	18.0	68.5	91.1	195.2	142.0	62.5	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110123118604   00344   991.155   ECC     TOTAL O3 FROM SONDE DATA  298
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110223118604    681  4-36        500 14-41327 11 300 22-59 -7 12 200 72-58340  0
1110323118604    150 70-55152  3 100 89-46153  8  70104-37142 15  50218-28162 20
1110423118604     30176-27150 2220.0134-27150 1810.0 50-24        583 14-36331 11
1110523118604    373 11-53347 13 321 12-59 -2 12 272 27-60340  9 230 67-57323  5
1110623118604    132 59-53140  3 127 61-52152  5 119 98-51158  5 115 81-50159  8
1110723118604    107 98-48143  6  90 82-44148  8  84 67-41152 11  81 77-41142 10
1110823118604     79 70-40149 11  66134-36135 16  62154-33154 15  60180-32149 17
1110923118604     58167-32143 17  54161-31151 18  52178-29157 19  49232-28162 21
1111023118604     45227-28155 21  41205-29149 24  37200-28160 19  36187-29157 21
1111123118604     33182-28161 22  32189-28160 2425.5174-27146 2124.0150-28145 25
1111223118604   14.9 85-25        8.5 37-22
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 1 DEC 86 324 Z ECC SONDE: 4A2479
SURFACE CONDITIONS: PRESSURE 688.7 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 73.1 ORD;
O3 ORD ZERO 25.2, BKGND 25.3, CAL 59.0; O3 BKGND .016 MICROAMP; FLOW RATE 28.5 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 326.; SONDE TOTAL O3 299.; C.F. 1.091

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	688.7	2800	10.9	.016	26.4	.0000	-34.1	-39.5	58.9	266.0		
1	677.0	2920	10.9	.016	26.3	.0001	-33.2	-37.4	66.8	268.3	6.6	355.
2	661.0	3088	12.1	.018	29.0	.0004	-32.9	-36.6	70.6	270.4	6.6	355.
3	644.0	3271	11.5	.018	27.5	.0006	-33.0	-37.3	66.6	272.3	7.1	342.
4	629.0	3436	10.3	.016	24.7	.0008	-33.2	-39.3	55.0	274.0	7.1	338.
5	612.0	3628	10.3	.017	24.8	.0010	-33.6	-39.8	54.2	275.7	7.2	337.
6	597.0	3801	10.8	.018	26.2	.0012	-34.4	-41.2	50.6	276.7	7.4	337.
7	580.0	4002	10.3	.018	25.0	.0015	-34.9	-42.4	46.9	278.4	7.5	337.
8	565.0	4184	9.2	.016	22.2	.0017	-36.1	-43.3	48.0	279.1	6.9	337.
9	550.0	4370	9.1	.016	22.0	.0019	-36.6	-42.9	52.9	280.6	6.7	340.
10	536.0	4548	9.7	.018	23.7	.0021	-37.4	-43.4	54.6	281.7	6.8	335.
11	521.0	4743	10.3	.020	25.2	.0023	-38.5	-44.2	56.3	282.7	6.5	328.
12	507.0	4929	10.3	.020	25.4	.0025	-39.8	-46.1	51.7	283.4	6.2	327.
13	493.0	5119	9.6	.019	23.9	.0027	-41.1			284.0	6.2	324.
14	479.0	5314	9.1	.019	22.7	.0029	-42.1			285.1	6.1	319.
15	465.0	5513	9.1	.019	22.8	.0031	-44.1			285.1	6.1	316.
16	452.0	5702	9.1	.020	22.9	.0034	-45.5			285.6	6.0	314.
17	440.0	5880	9.1	.021	23.0	.0035	-46.8			286.2	6.3	318.
18	427.0	6078	9.1	.021	23.4	.0038	-48.1			287.0	6.2	317.
19	416.0	6249	7.9	.019	20.3	.0039	-49.9			286.8	6.2	309.
20	403.0	6455	7.2	.018	18.8	.0041	-51.3			287.6	5.7	305.
21	392.0	6634	7.2	.018	19.0	.0043	-52.9			287.9	4.6	296.
22	379.5	6842	8.5	.022	22.4	.0045	-54.1			288.9	3.8	244.
23	378.0	6867	10.9	.029	29.0	.0045	-54.9			288.1	5.5	266.
24	355.0	7267	9.8	.028	26.1	.0050	-56.3			291.6	7.0	276.
25	343.0	7484	10.5	.031	28.0	.0053	-58.0			292.1	5.8	248.
26	333.0	7670	11.0	.033	29.7	.0056	-58.5			293.9	5.4	252.
27	324.0	7841	12.2	.038	33.2	.0058	-59.9			294.3	4.5	255.
28	316.0	7997	14.7	.047	39.9	.0061	-60.3			295.9	3.7	253.
29	306.0	8197	16.6	.054	44.9	.0065	-60.1			298.9	2.7	257.
30	295.0	8425	17.1	.058	46.6	.0070	-60.8			301.0	2.9	284.
31	284.0	8660	17.0	.060	46.5	.0075	-61.5			303.2	4.6	284.
32	274.0	8881	18.9	.069	51.6	.0080	-61.9			305.8	5.1	272.
33	267.0	9041	27.5	.103	75.0	.0084	-61.5			308.6	5.2	260.
34	259.0	9229	32.4	.125	88.4	.0092	-61.2			311.9	5.7	261.
35	250.0	9448	44.2	.177	120.0	.0102	-60.6			315.8	6.2	263.
36	242.0	9651	46.5	.192	125.3	.0114	-59.0			321.2	5.3	251.
37	234.0	9861	56.0	.239	150.9	.0129	-59.2			324.0	5.1	244.
38	226.0	10078	56.6	.251	153.1	.0143	-59.4			327.0	6.8	255.
39	220.0	10246	58.4	.265	156.7	.0155	-58.1			331.4	6.5	250.
40	211.0	10509	62.0	.294	166.3	.0175	-58.0			335.7	4.3	250.
41	204.0	10721	64.2	.315	172.4	.0192	-58.3			338.4	4.4	239.
42	197.5	10925	63.3	.320	169.6	.0208	-57.8			342.3	3.7	227.
43	191.1	11132	63.2	.331	169.4	.0225	-57.6			345.8	3.3	229.
44	184.6	11350	66.0	.358	176.2	.0242	-56.9			350.4	5.6	229.
45	178.2	11573	67.0	.376	178.8	.0261	-56.6			354.5	6.0	231.
46	172.5	11779	67.5	.392	180.0	.0278	-56.4			358.1	5.8	234.
47	166.8	11992	67.5	.405	179.4	.0296	-55.8			362.6	6.0	238.
48	161.1	12214	68.1	.423	179.7	.0315	-54.5			368.5	6.5	226.
49	155.5	12440	63.8	.411	168.6	.0333	-54.6			371.9	5.3	222.

STATION: SOUTH POLE LAUNCH DATE: 1 DEC 86 324 Z ECC SONDE: 4A2479

TIME MIN	PRESS MB	ALT GPM	OZONE MB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	150.5	12649	64.2	.426	169.5	.0349	-54.5			375.7	5.1	234.
51	145.5	12865	62.2	.428	164.1	.0366	-54.3			379.6	7.8	237.
52	140.5	13089	62.2	.443	163.5	.0383	-53.3			385.1	9.2	226.
53	135.9	13303	63.2	.465	166.1	.0400	-53.3			388.8	9.2	211.
54	131.5	13515	78.8	.599	205.9	.0418	-52.4			394.2	9.0	205.
55	127.2	13730	72.6	.571	188.7	.0438	-51.0			400.4	8.4	201.
56	122.9	13954	97.2	.791	252.3	.0461	-50.5			405.2	7.4	201.
57	118.5	14192	106.0	.894	273.8	.0490	-49.8			410.9	8.4	205.
58	114.8	14399	68.2	.594	176.0	.0512	-49.6			414.9	10.1	208.
59	110.0	14679	66.7	.606	171.5	.0535	-48.9			421.4	8.9	205.
60	107.4	14836	89.3	.831	228.4	.0550	-47.5			426.8	7.7	205.
61	103.6	15074	99.2	.957	253.6	.0576	-47.4			431.5	9.0	209.
62	100.4	15281	82.0	.816	209.5	.0599	-47.2			435.7	11.1	207.
63	97.2	15495	93.2	.959	237.1	.0621	-46.4			441.4	13.6	202.
64	94.1	15710	112.5	1.196	285.4	.0648	-45.6			447.0	13.7	198.
65	91.0	15933	114.1	1.254	288.5	.0678	-44.8			453.0	12.4	195.
66	88.0	16157	106.6	1.212	268.1	.0707	-43.6			459.6	12.5	196.
67	84.8	16406	100.7	1.188	251.5	.0737	-42.0			467.9	12.6	196.
68	81.9	16642	106.8	1.304	265.2	.0766	-40.6			475.4	14.0	194.
69	79.3	16861	104.1	1.313	258.7	.0792	-40.9			479.2	15.7	193.
70	76.7	17088	87.3	1.138	216.0	.0818	-39.9			485.8	16.9	196.
71	74.1	17324	95.4	1.287	235.3	.0842	-39.1			492.4	18.8	194.
72	71.8	17540	116.2	1.619	285.1	.0869	-37.8			499.4	17.5	186.
73	69.7	17744	121.2	1.739	296.4	.0897	-37.0			505.4	17.4	182.
74	67.4	17976	131.1	1.945	318.7	.0930	-35.7			513.2	20.2	185.
75	65.3	18196	157.5	2.411	381.3	.0966	-34.8			519.9	20.9	185.
76	63.3	18413	141.0	2.227	340.5	.1003	-34.1			526.0	22.0	182.
77	61.3	18638	142.5	2.325	341.8	.1039	-32.4			534.7	22.6	185.
78	59.4	18860	158.5	2.668	379.9	.1076	-32.4			539.5	19.8	189.
79	57.7	19065	172.1	2.983	410.6	.1114	-31.2			546.7	18.6	188.
80	56.9	19163	190.2	3.343	453.6	.1134	-31.0			549.2	24.0	188.
81	54.1	19520	192.9	3.566	460.0	.1210	-31.0			557.2	26.0	185.
82	52.3	19760	198.4	3.793	472.0	.1262	-30.5			563.8	18.8	192.
83	50.7	19981	175.4	3.459	416.5	.1308	-30.1			569.8	20.7	188.
84	49.0	20224	180.4	3.681	427.5	.1356	-29.4			576.9	26.6	181.
85	47.3	20476	202.4	4.280	478.7	.1409	-29.1			583.7	27.5	188.
86	45.7	20722	205.0	4.487	485.1	.1465	-29.1			589.5	26.5	186.
87	43.9	21009	197.8	4.507	466.6	.1528	-28.4			597.9	23.3	183.
88	42.1	21309	194.1	4.611	457.9	.1593	-28.4			605.1	22.3	184.
89	40.3	21622	187.5	4.652	442.1	.1659	-28.3			613.0	35.3	193.
90	38.6	21931	191.7	4.967	451.6	.1724	-28.0			621.3	21.8	187.
91	36.9	22254	191.1	5.178	448.7	.1792	-27.3			631.0	10.3	166.
92	35.3	22572	187.4	5.308	441.4	.1858	-28.0			637.4	23.8	193
93	34.2	22799	184.2	5.386	434.0	.1904	-28.1			642.8	23.2	190.
94	33.0	23055	176.6	5.351	417.0	.1955	-28.7			648.0	23.8	186.
95	31.9	23297	172.9	5.419	408.7	.2002	-29.1			653.2	26.0	180.
96	30.5	23617	166.9	5.471	394.5	.2062	-28.9			662.0	23.3	172.
97	29.4	23880	164.8	5.605	388.6	.2110	-28.3			670.8	17.8	169.
98	28.7	24052	155.7	5.426	366.9	.2140	-28.1			675.8	18.2	175.
99	28.0	24229	153.0	5.464	361.0	.2170	-28.5			679.5	17.8	175.
100	27.2	24436	147.1	5.408	346.6	.2205	-28.0			686.6	18.2	175.
101	26.3	24677	145.0	5.514	341.2	.2244	-27.7			694.0	16.8	171.
102	25.7	24842	135.1	5.257	317.6	.2269	-27.5			699.4	16.0	166.
103	25.0	25040	126.9	5.077	298.4	.2298	-27.5			704.9	15.4	170.
104	24.2	25274	123.1	5.087	288.5	.2330	-26.8			713.4	14.2	170.

STATION: SOUTH POLE LAUNCH DATE: 1 DEC 86 324 Z ECC SONDE: 4A2479

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	23.5	25485	116.9	4.973	274.0	.2358	-26.8			719.4	14.2	170.
106	22.8	25705	112.6	4.939	263.8	.2385	-26.5			726.4		
107	21.8	26026	103.2	4.736	241.6	.2423	-26.5			735.8		

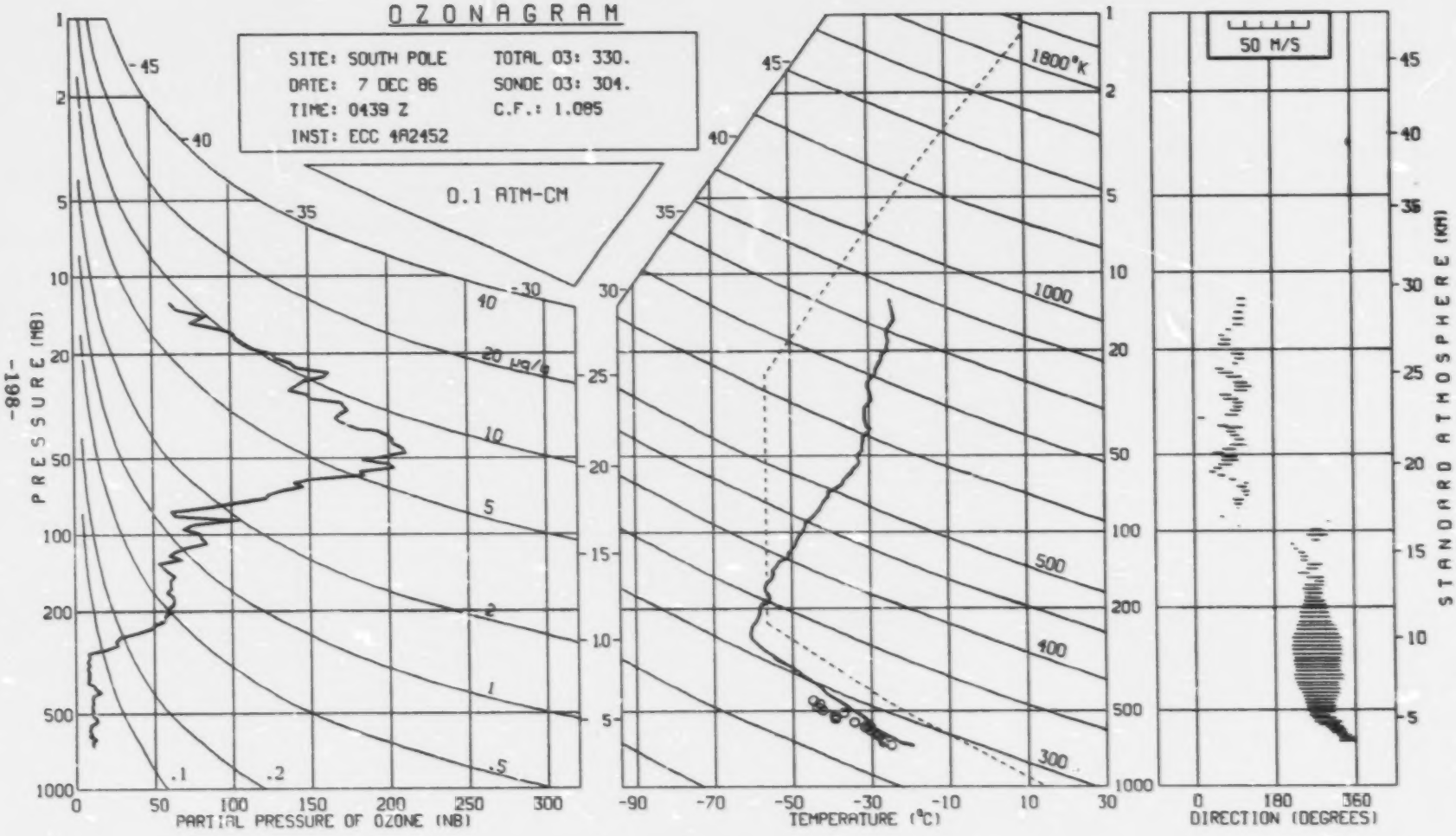
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
10.4	13.9	63.5	103.7	185.1	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110101128603   00326   991.091   ECC     TOTAL O3 FROM SONDE DATA  299
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110201128603    689 11-34        500 10-40326  6 300 17-60272  3 200 64-58232  4
1110301128603    150 64-54234  5 100 83-47206 11  70121-37183 17  50177-30185 23
1110401128603     30166-29171 21 612 10-34337  7 378 11-55266  6 274 19-62272  5
1110501128603    234 56-59244  5 136 63-53211  9 132 79-52205  9 127 73-51201  8
1110601128603    123 97-51201  7 119106-50205  8 115 68-50208 10 110 67-49205  9
1110701128603    107 89-48205  8 104 99-47209  9  94113-46198 14  85101-42196 13
1110801128603     79104-41193 16  77 87-40196 17  67131-36185 20  65157-35185 21
1110901128603     63141-34182 22  61143-32185 23  58172-31188 19  57190-31188 24
1111001128603     52198-31192 19  51175-30188 21  49180-29181 27  47202-29188 28
1111101128603     46205-29186 27  40187-28193 35  37191-27166 1021.8103-27
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 7 DEC 86 439 Z ECC SONDE: 4A2452
SURFACE CONDITIONS: PRESSURE 693.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 76.1 ORD; TBOX 30.0 C AT 73.0 ORD;
O3 ORD ZERO 24.9, BKGND 25.1, CAL 59.5; O3 BKGND .030 MICROAMP; FLOW RATE 27.6 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 330.; SONDE TOTAL O3 304.; C.F. 1.085

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	694.0	2799	11.0	.016	24.9	.0000	-19.6	-25.2	62.1	281.4		
1	675.0	3003	11.0	.016	25.4	.0002	-23.5	-27.3	71.7	279.3	10.6	341.
2	656.0	3211	10.4	.016	24.1	.0005	-24.3	-27.2	77.9	280.7	10.6	341.
3	638.0	3413	12.7	.020	29.6	.0007	-25.9	-28.4	80.5	281.1	9.3	334.
4	620.0	3619	8.7	.014	20.3	.0010	-27.2	-29.4	82.5	281.9	9.4	323.
5	604.0	3806	9.9	.016	23.3	.0012	-28.7	-30.6	84.3	282.4	10.4	319.
6	588.0	3997	8.8	.015	20.9	.0014	-30.2	-31.9	86.5	282.7	10.9	313.
7	573.0	4181	8.9	.016	21.0	.0015	-29.6	-31.3	86.8	285.6	12.3	300.
8	558.0	4369	9.4	.017	22.6	.0017	-30.8	-34.6	70.0	286.3	16.6	298.
9	540.0	4601	13.6	.025	32.5	.0020	-31.8	-39.5	47.1	287.8	14.4	290.
10	525.0	4799	12.9	.025	30.9	.0023	-32.6	-39.7	50.0	289.1	12.9	279.
11	510.0	5002	10.5	.021	25.5	.0026	-33.8	-37.4	71.5	290.1	15.6	285.
12	497.0	5182	10.5	.021	25.6	.0028	-35.2	-42.8	46.2	290.6	17.0	284.
13	481.0	5409	10.6	.022	26.0	.0031	-36.4	-44.1	45.6	291.9	18.0	283.
14	468.0	5598	10.2	.022	25.1	.0033	-37.4	-43.4	54.6	292.8	18.3	280.
15	453.0	5822	10.8	.024	26.6	.0036	-38.7	-45.1	51.7	294.0	20.1	281.
16	439.0	6036	10.6	.024	26.4	.0038	-40.3			294.6	21.0	281.
17	426.0	6240	10.6	.025	26.4	.0041	-41.7			295.4	23.6	281.
18	413.0	6449	15.7	.038	39.5	.0044	-42.4			297.1	25.7	279.
19	400.0	6664	12.4	.031	31.0	.0048	-43.5			298.4	26.2	276.
20	389.0	6851	11.9	.031	30.0	.0050	-44.5			299.5	27.1	275.
21	377.0	7060	7.3	.019	18.5	.0053	-45.9			300.3	30.7	278.
22	365.0	7274	8.5	.023	21.6	.0055	-47.4			301.1	31.4	278.
23	352.0	7513	8.5	.024	21.6	.0057	-48.7			302.5	28.4	276.
24	341.0	7721	8.5	.025	21.8	.0059	-50.0			303.4	27.9	275.
25	332.0	7895	7.3	.022	19.0	.0061	-51.4			303.9	28.9	274.
26	322.0	8092	9.0	.028	23.6	.0063	-52.8			304.6	29.4	275.
27	313.0	8274	7.3	.023	19.2	.0065	-54.4			304.8	28.4	275.
28	302.0	8502	9.0	.030	24.0	.0067	-55.4			306.6	30.7	275.
29	291.0	8737	8.5	.029	22.6	.0070	-57.2			307.2	30.8	274.
30	282.0	8935	20.0	.071	53.7	.0073	-58.4			308.3	30.5	273.
31	272.0	9161	26.8	.098	72.4	.0080	-59.5			310.0	29.3	273.
32	263.0	9371	25.7	.098	69.8	.0087	-60.5			311.4	31.4	274.
33	254.0	9587	28.4	.112	77.3	.0094	-60.9			314.0	28.0	273.
34	245.0	9811	39.0	.159	106.0	.0104	-60.7			317.5	25.5	274.
35	236.0	10043	48.0	.204	130.5	.0117	-60.5			321.2	24.7	273.
36	228.0	10258	50.9	.224	137.5	.0130	-59.7			325.7	20.9	271.
37	219.0	10510	56.9	.260	153.7	.0147	-59.1			330.3	18.9	271.
38	210.0	10773	57.5	.274	154.7	.0166	-58.6			335.1	18.3	269.
39	202.0	11017	60.1	.297	161.5	.0184	-58.4			339.1	15.4	269.
40	195.8	11213	59.9	.306	160.9	.0199	-58.3			342.4	14.3	270.
41	188.8	11442	62.6	.331	167.5	.0217	-57.2			347.7	12.7	270.
42	182.0	11674	63.1	.347	167.8	.0235	-55.9			353.5	10.4	267.
43	175.4	11908	62.8	.358	167.1	.0253	-56.2			356.7	11.4	267.
44	168.8	12151	58.7	.348	156.6	.0271	-57.1			359.3	11.6	265.
45	162.5	12391	61.3	.377	163.7	.0289	-57.1			363.2	12.6	271.
46	156.7	12621	61.0	.389	162.6	.0307	-56.6			367.8	5.9	280.
47	150.9	12860	61.0	.404	161.7	.0325	-55.4			373.8	11.0	272.
48	145.0	13114	63.8	.440	168.8	.0345	-55.1			378.7	7.0	246.
49	140.0	13338	59.8	.427	158.1	.0362	-55.1			382.5	6.9	266.

STATION: SOUTH POLE LAUNCH DATE: 7 DEC 86 439 Z ECC SONDE: 4A2452

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	135.0	13570	56.3	.417	148.3	.0379	-54.1			388.2	9.4	272.
51	130.0	13812	53.7	.413	141.0	.0395	-53.5			393.5	3.8	247.
52	125.3	14050	67.5	.538	175.4	.0413	-51.1			402.0	4.7	248.
53	121.2	14266	61.0	.503	158.5	.0429	-51.1			405.8	4.0	241.
54	117.2	14484	63.8	.544	165.3	.0446	-50.3			411.1	2.6	229.
55	113.1	14716	70.5	.623	181.8	.0465	-49.4			417.0	1.9	220.
56	108.8	14970	83.9	.772	216.5	.0488	-49.1			422.2	5.7	275.
57	103.8	15279	81.3	.784	208.9	.0519	-48.4			429.3	12.7	277.
58	99.3	15571	79.2	.797	202.4	.0547	-47.4			436.8	6.5	275.
59	95.6	15822	69.6	.728	177.5	.0569	-46.8			442.7	.6	99.
C0	91.9	16083	75.6	.823	192.6	.0592	-46.6			448.0	2.0	303.
61	88.3	16349	101.9	1.155	258.0	.0620	-45.1			456.3	1.4	62.
62	85.3	16580	64.3	.754	162.0	.0643	-44.1			462.9	.3	279.
63	82.1	16837	62.1	.757	156.0	.0662	-43.1			470.0	.5	99.
64	79.0	17096	86.0	1.089	215.4	.0684	-42.5			476.3	4.4	99.
65	76.2	17340	103.6	1.359	258.6	.0711	-41.8			482.7	6.1	99.
66	73.4	17594	121.5	1.655	301.9	.0744	-40.8			490.0	2.5	118.
67	70.7	17849	124.3	1.758	308.8	.0781	-40.7			495.5	4.2	116.
68	68.2	18095	132.5	1.943	326.3	.0817	-38.7			505.1	5.9	107.
69	65.8	18341	145.2	2.207	355.2	.0857	-37.2			513.5	2.4	118.
70	63.4	18597	140.5	2.215	343.4	.0898	-36.9			519.6	3.9	87.
71	61.2	18841	150.3	2.456	365.9	.0939	-36.0			526.9	4.7	62.
72	59.0	19095	184.4	3.125	446.9	.0987	-34.9			534.9	3.8	41.
73	56.9	19348	162.5	3.208	441.3	.1040	-34.4			541.7	5.0	53.
74	54.9	19598	203.2	3.702	489.2	.1094	-33.3			549.7	8.4	71.
75	52.9	19859	199.9	3.779	479.9	.1153	-32.8			556.7	10.5	82.
76	51.1	20102	184.8	3.617	444.6	.1206	-33.2			561.3	9.2	80.
77	49.3	20354	197.0	3.995	473.4	.1260	-33.0			567.4	6.1	55.
78	47.6	20601	210.6	4.425	504.3	.1316	-32.0			575.7	7.9	80.
79	45.8	20873	208.9	4.561	500.3	.1380	-32.1			581.7	10.9	100.
80	43.9	21172	202.2	4.605	483.6	.1449	-31.8			589.5	6.0	104.
81	42.3	21434	202.3	4.782	483.8	.1508	-31.8			595.8	5.7	93.
82	40.8	21689	198.5	4.865	472.4	.1565	-30.6			604.9	5.7	85.
83	39.3	21955	192.7	4.904	457.3	.1623	-29.9			613.4	10.4	92.
84	38.9	22027	181.2	4.659	432.1	.1638	-30.9			612.5	5.8	66.
85	36.4	22497	168.9	4.639	403.3	.1730	-31.4			622.9	4.0	16.
86	35.3	22714	166.5	4.716	397.4	.1770	-31.3			628.7	8.6	86.
87	34.1	22958	169.4	4.968	404.3	.1816	-31.3			635.0	6.3	95.
88	32.9	23211	174.0	5.288	415.3	.1865	-31.3			641.5	5.6	101.
89	31.9	23430	171.7	5.382	408.4	.1907	-30.5			649.3	6.6	101.
90	30.8	23679	170.6	5.539	404.3	.1954	-29.6			658.4	9.4	84.
91	29.8	23914	151.1	5.070	358.4	.1996	-29.7			664.2	7.0	72.
92	28.6	24206	147.8	5.169	350.7	.2045	-29.9			671.7	7.4	107.
93	27.6	24459	137.5	4.983	327.4	.2085	-30.6			676.4	10.2	113.
94	26.7	24694	141.1	5.285	335.9	.2121	-30.6			682.8	8.4	106.
95	25.5	25021	147.0	5.763	348.4	.2173	-29.6			694.9	9.6	92.
96	24.6	25277	159.4	6.481	376.2	.2217	-28.5			705.1	8.9	73.
97	23.7	25544	161.9	6.832	382.2	.2264	-28.5			712.6	4.8	59.
98	22.7	25853	141.3	6.225	332.6	.2316	-27.9			723.4	2.6	95.
99	21.7	26177	137.8	6.352	323.2	.2365	-26.9			735.5	5.7	105.
100	20.8	26482	128.7	6.189	301.8	.2410	-26.9			744.5	7.3	100.
101	19.9	26801	126.6	6.360	295.2	.2454	-25.6			758.0	7.0	84.
102	19.0	27136	113.2	5.959	264.1	.2498	-25.5			768.5	7.0	70.
103	18.2	27448	107.4	5.900	250.0	.2536	-25.1			779.3	5.9	74.
104	17.4	27774	103.0	5.921	240.2	.2573	-25.5			788.1	3.5	64.

STATION: SOUTH POLE LAUNCH DATE: 7 DEC 86 439 Z ECC SONDE: 4A2452

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	16.5	28159	102.5	6.212	238.9	.2616	-25.6			799.7	3.2	80.
106	15.8	28473	91.9	5.814	213.6	.2649	-24.7			812.7	6.5	103.
107	15.0	28851	75.2	5.011	173.9	.2683	-23.6			828.4	6.6	103.
108	14.2	29231	83.8	5.904	194.0	.2718	-23.9			840.6	5.3	103.
109	13.4	29674	65.6	4.897	152.3	.2752	-24.3			853.2	4.7	110.
110	12.6	30122	61.8	4.906	143.7	.2783	-24.7			867.0	4.7	110.

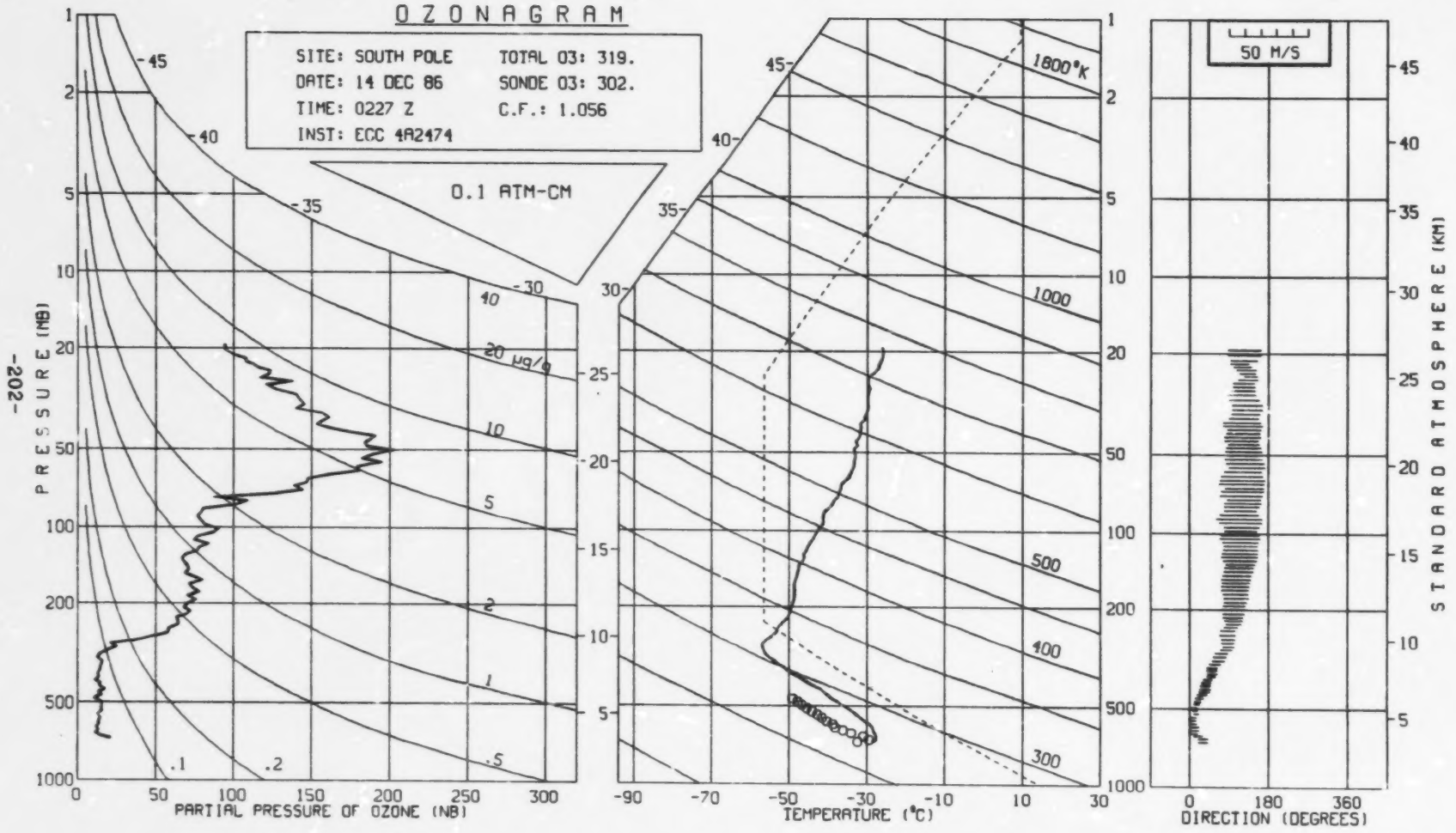
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
10.7	13.0	57.6	91.6	186.4	131.8	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110107128605   00330   991.085   ECC     TOTAL O3 FROM SONDE DATA  304
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110207128605    694 11-20        500 11-35284 17 300  9-56275 31 200 60-58269 15
1110307128605    150 61-55268 10 100 80-48275  7  70127-40114  5  50192-33 65  7
1110407128605     30155-30 74  720.0127-26 86  7 675 11-24341 11 588  9-30313 11
1110507128605    291  8-57274 31 272 27-60273 29 254 28-61273 28 236 48-61273 25
1110607128605    130 54-54247  4 125 67-51248  5 117 64-50229  3 109 84-49275  6
1110707128605     96 70-47 99  1  92 76-47303  2  88102-45 62  1  85 64-44279  0
1110807128605     82 62-43 99  1  73121-41118  3  66145-37118  2  63140-37 87  4
1110907128605     61150-36 62  5  59184-35 41  4  57183-34 53  5  55203-33 71  8
1111007128605     53200-33 82 11  51185-33 80  9  48211-32 80  8  39193-30 92 10
1111107128605     39181-31 66  6  36169-31 16  4  31171-30 84 927.6138-31113 10
1111207128605   26.7141-31106  823.7162-29 59  522.7141-28 95  318.2107-25 74  6
1111307128605   16.5102-26 80  315.0 75-24103  714.2 84-24103  513.4 66-24110  5
1111407128605   12.6 62-25110  5
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 14 DEC 86 227 Z ECC SONDE: 4A2474
SURFACE CONDITIONS: PRESSURE 687.1 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.2 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 72.1 ORD;
O3 ORD ZERO 24.4, BKGND 24.6, CAL 60.5; O3 BKGND .029 MICROAMP; FLOW RATE 27.4 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 319.; SONDE TOTAL O3 302.; C.F. 1.056

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	687.1	2800	21.1	.031	49.9	.0000	-29.0	-32.6	71.7	271.8		
1	674.0	2938	15.2	.023	35.7	.0003	-27.8	-29.7	84.8	274.7	6.4	30.
2	653.0	3165	11.4	.017	26.9	.0006	-27.8	-31.2	73.7	277.2	6.4	30.
3	635.0	3365	13.1	.021	30.7	.0009	-28.2	-34.3	56.4	278.9	6.0	18.
4	620.0	3536	11.9	.019	28.2	.0011	-28.6	-36.4	47.7	280.4	5.0	7.
5	605.0	3711	13.6	.023	32.2	.0014	-28.8	-38.4	39.7	282.1	5.3	10.
6	587.0	3926	13.2	.022	31.4	.0017	-29.5	-39.0	39.6	283.7	5.1	11.
7	571.0	4122	14.4	.025	34.1	.0020	-30.8	-40.6	38.4	284.4	4.3	7.
8	554.0	4336	12.7	.023	30.4	.0023	-31.9	-41.8	37.3	285.6	4.0	7.
9	539.0	4529	15.4	.029	37.1	.0026	-32.9	-43.0	36.3	286.6	3.5	8.
10	524.0	4727	14.9	.028	35.9	.0029	-34.0	-44.4	34.8	287.7	3.3	14.
11	509.0	4929	15.4	.030	37.4	.0033	-35.3	-45.7	34.3	288.4	3.1	11.
12	495.0	5122	14.4	.029	34.9	.0036	-36.7	-47.0	34.1	289.1	3.2	9.
13	480.0	5334	10.6	.022	26.0	.0039	-37.9	-48.1	33.9	290.2	3.8	15.
14	467.0	5522	15.0	.032	37.0	.0042	-39.2	-49.4	33.6	290.8	4.4	17.
15	454.0	5714	13.3	.029	33.0	.0045	-40.3			291.8	5.2	21.
16	441.0	5911	17.1	.039	42.5	.0049	-41.4			292.8	6.5	27.
17	428.0	6113	13.8	.032	34.6	.0052	-42.1			294.4	7.0	33.
18	416.0	6304	14.4	.035	36.1	.0055	-43.7			294.9	6.8	34.
19	403.0	6516	11.1	.028	28.1	.0059	-45.1			295.7	6.5	35.
20	390.0	6734	13.8	.035	35.4	.0062	-46.5			296.6	5.9	37.
21	378.0	6940	12.9	.034	33.0	.0065	-47.8			297.5	5.5	40.
22	367.0	7134	14.0	.038	36.1	.0068	-49.2			298.3	5.1	49.
23	357.0	7314	14.4	.040	37.4	.0071	-50.4			299.0	5.8	51.
24	346.0	7517	15.0	.043	39.0	.0075	-51.5			300.2	6.4	50.
25	336.0	7706	15.6	.047	41.0	.0079	-52.9			300.9	6.5	51.
26	325.0	7920	12.4	.038	32.4	.0082	-54.0			302.2	7.3	57.
27	314.0	8140	14.0	.045	37.1	.0086	-55.3			303.4	7.6	65.
28	304.0	8346	18.8	.062	50.0	.0090	-56.3			304.8	7.9	68.
29	295.0	8536	24.5	.083	65.2	.0095	-56.8			306.7	7.7	73.
30	286.0	8732	21.3	.075	56.9	.0101	-57.1			309.0	7.1	83.
31	278.0	8911	37.4	.134	99.9	.0107	-57.1			311.5	7.3	89.
32	269.0	9119	46.6	.173	123.8	.0118	-56.1			315.9	8.2	87.
33	260.0	9336	57.5	.221	151.9	.0132	-54.6			321.1	9.0	88.
34	251.0	9562	58.5	.233	153.7	.0148	-53.5			326.1	9.6	86.
35	242.0	9797	64.5	.267	169.2	.0166	-53.0			330.2	9.6	87.
36	234.0	10014	64.5	.276	168.5	.0183	-52.2			334.6	9.2	94.
37	227.0	10210	63.6	.280	165.4	.0198	-51.5			338.7	10.1	100.
38	220.0	10413	69.6	.316	180.5	.0215	-50.5			343.1	11.6	100.
39	214.0	10593	72.0	.336	186.4	.0230	-50.2			346.3	12.7	98.
40	207.0	10810	68.0	.328	175.7	.0249	-49.8			350.3	13.6	100.
41	199.2	11061	71.3	.358	183.9	.0270	-49.5			354.7	14.5	100.
42	193.0	11268	75.6	.392	194.9	.0288	-49.3			358.1	14.2	101.
43	186.7	11485	70.7	.379	182.2	.0307	-49.0			362.0	14.3	104.
44	180.6	11703	77.5	.429	199.5	.0327	-48.9			365.7	15.7	106.
45	174.6	11924	73.6	.421	189.4	.0347	-48.9			369.3	16.0	105.
46	168.5	12157	71.7	.425	184.5	.0367	-48.9			373.1	17.2	104.
47	163.0	12375	79.6	.488	204.9	.0387	-48.9			376.6	17.7	104.
48	158.0	12579	74.4	.471	191.2	.0406	-48.6			380.5	17.7	106.
49	152.9	12794	68.8	.450	176.7	.0425	-48.3			384.6	18.5	106.

STATION: SOUTH POLE LAUNCH DATE: 14 DEC 86 227 Z ECC SONDE: 4A2474

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	147.8	13017	71.5	.484	183.3	.0443	-48.0			388.8	18.2	108.
51	142.9	13239	70.2	.491	179.8	.0462	-47.8			392.8	18.6	111.
52	138.2	13459	68.1	.493	174.4	.0480	-47.7			396.9	18.6	113.
53	133.4	13692	66.8	.501	170.4	.0499	-46.8			402.5	19.0	116.
54	128.6	13935	70.1	.545	178.6	.0519	-46.4			407.5	21.2	115.
55	124.4	14155	76.5	.615	194.9	.0538	-46.5			411.1	22.8	114.
56	120.4	14372	77.9	.647	198.0	.0558	-45.9			416.0	23.1	115.
57	116.4	14597	83.5	.717	211.7	.0580	-45.5			420.9	22.2	117.
58	112.3	14836	74.5	.664	188.6	.0602	-44.9			426.3	21.6	117.
59	108.4	15072	77.5	.715	195.2	.0623	-44.1			432.2	23.1	116.
60	104.8	15298	87.1	.831	219.1	.0645	-43.7			437.2	25.9	115.
61	101.3	15526	90.3	.891	226.5	.0669	-43.1			442.5	24.2	115.
62	98.0	15749	81.6	.833	204.2	.0691	-42.5			447.8	20.3	117.
63	94.7	15980	79.0	.834	196.9	.0713	-41.4			454.4	21.8	119.
64	91.3	16228	77.1	.844	192.2	.0736	-41.4			459.2	27.4	117.
65	87.9	16485	79.0	.898	196.8	.0759	-41.4			464.2	29.1	113.
66	84.9	16720	80.7	.950	200.6	.0781	-41.2			469.4	24.8	113.
67	81.9	16965	101.1	1.235	250.1	.0807	-39.8			477.0	20.6	116.
68	79.2	17194	106.1	1.365	266.7	.0834	-39.1			483.0	21.9	119.
69	76.7	17414	90.1	1.174	221.7	.0859	-38.7			488.3	23.7	121.
70	74.2	17642	124.4	1.676	305.1	.0887	-37.7			495.0	21.7	124.
71	71.6	17888	143.6	2.005	351.7	.0925	-37.5			500.6	26.7	118.
72	69.1	18133	138.9	2.011	339.7	.0965	-36.9			506.9	27.1	121.
73	66.9	18356	146.8	2.194	358.6	.1001	-36.9			511.6	24.6	126.
74	64.6	18598	147.6	2.285	359.5	.1042	-36.1			518.5	28.7	119.
75	62.4	18839	161.1	2.582	390.3	.1084	-34.9			526.3	28.4	121.
76	60.2	19089	180.6	3.001	437.0	.1133	-34.5			532.6	26.5	120.
77	58.0	19349	179.5	3.095	433.1	.1185	-33.9			539.8	24.0	122.
78	56.0	19595	193.6	3.458	466.4	.1237	-33.5			546.2	22.5	131.
79	54.0	19850	182.7	3.383	439.9	.1291	-33.5			551.9	23.9	127.
80	52.1	20101	189.8	3.644	456.7	.1344	-33.2			558.2	23.6	123.
81	50.2	20362	201.6	4.015	485.1	.1401	-33.3			563.8	22.2	125.
82	48.5	20603	185.4	3.823	446.9	.1454	-33.6			568.8	23.1	123.
83	46.9	20838	184.0	3.924	441.8	.1503	-32.7			576.5	21.7	123.
84	45.3	21082	187.5	4.139	450.9	.1553	-33.1			581.2	19.6	123.
85	43.9	21303	190.2	4.331	456.1	.1600	-32.4			588.1	21.7	118.
86	42.3	21565	174.8	4.133	418.7	.1654	-32.0			595.4	23.2	120.
87	40.8	21820	161.9	3.967	387.6	.1702	-32.0			601.5	21.1	122.
88	39.4	22066	153.3	3.891	366.7	.1745	-31.7			608.2	21.5	124.
89	38.0	22321	156.9	4.129	375.8	.1789	-32.0			613.9	25.6	121.
90	36.7	22567	161.0	4.387	383.7	.1833	-30.9			622.7	24.2	119.
91	35.3	22843	156.7	4.439	373.0	.1882	-30.7			630.4	19.0	123.
92	34.0	23109	140.1	4.121	333.0	.1926	-30.2			638.6	18.0	128.
93	32.6	23408	145.2	4.453	344.7	.1973	-30.0			646.6	19.3	132.
94	31.3	23697	142.1	4.540	337.3	.2019	-30.0			654.2	19.1	131.
95	30.0	23999	140.1	4.670	332.8	.2066	-30.0			662.2	19.9	124.
96	28.6	24339	126.4	4.419	300.1	.2117	-29.9			671.6	18.0	118.
97	27.6	24592	121.4	4.399	287.5	.2151	-29.4			680.0	14.9	121.
98	26.7	24828	135.9	5.089	322.7	.2185	-30.0			684.6	14.0	124.
99	25.9	25044	117.6	4.541	279.3	.2216	-29.9			690.9	13.4	123
100	25.1	25267	122.5	4.879	290.8	.2245	-29.9			697.2	12.2	133.
101	24.3	25498	123.5	5.084	291.8	.2277	-28.7			707.1	8.6	139.
102	23.7	25677	116.2	4.905	273.6	.2300	-27.8			714.8	10.0	132.
103	23.0	25892	112.4	4.889	264.0	.2327	-27.2			722.5	12.7	130.
104	22.4	26082	107.9	4.817	253.3	.2350	-27.1			728.4	11.5	120.

STATION: SOUTH POLE LAUNCH DATE: 14 DEC 86 227 Z ECC SONDE: 4A2474

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	21.8	26277	107.7	4.940	252.3	.2373	-26.7			735.3	11.7	114.
106	21.2	26478	100.6	4.746	235.4	.2396	-26.3			742.3	16.7	124.
107	20.2	26827	94.2	4.662	220.0	.2434	-26.1			753.5	20.7	125.
108	19.3	27156	94.3	4.885	220.3	.2467	-26.2			762.9	20.7	125.

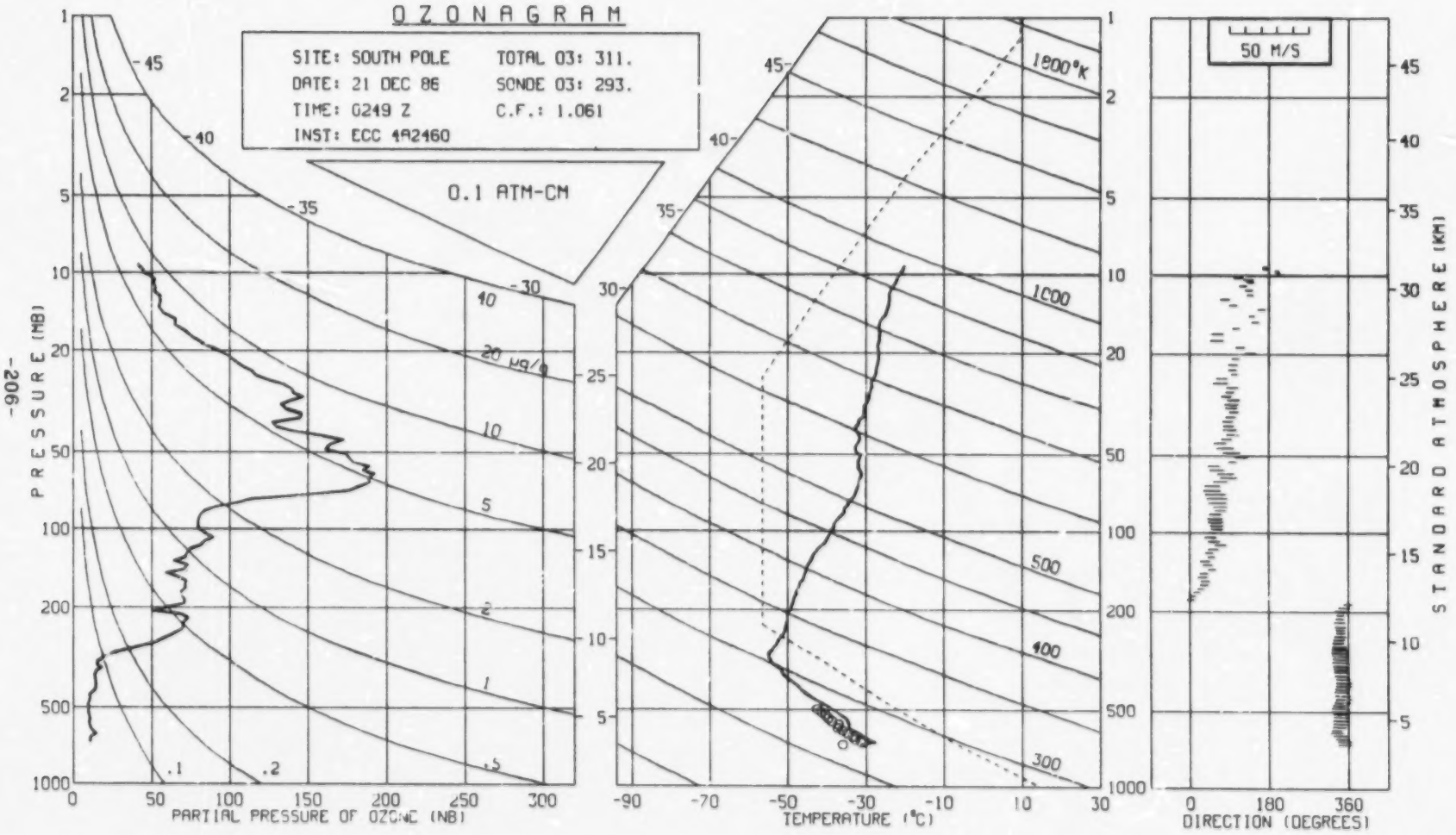
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
14.0	21.1	70.4	100.0	171.6	999.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110114128602   00319   991.056   ECC    TOTAL O3 FROM SONDE DATA  302
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110214128602    687 21-29       500 15-36 10  3 300 21-57 70  8 200 71-50100 14
1110314128602    150 70-48107 18 100 87-43116 23  70141-37120 27  50200-33125 22
1110414128602     30140-30124 2020.0 94-26125 21 653 11-28 30  6 605 14-29 10  5
1110514128602    325 12-54 57  7 286 21-57 83  7 278 37-57 89  7 260 58-55 88  9
1110614128602    181 77-49106 16 169 72-49104 17 163 80-49104 18 133 67-47116 19
1110714128602    116 84-46117 22 112 75-45117 22  91 77-41117 27  85 81-41113 25
1110814128602     82101-40116 21  79108-39119 22  77 90-39121 24  74124-38124 22
1110914128602     72144-38118 27  65148-36119 29  60181-35120 27  58179-34122 24
1111014128602     56194-34131 23  54183-34127 24  49185-34123 23  44190-32118 22
1111114128602     39153-32124 22  37161-31119 24  35157-31123 19  34140-30128 18
1111214128602   27.6121-29121 1526.7136-30124 1425.9118-30123 1325.1122-30133 12
1111314128602   19.3 94-26125 21
```



BEST COPY AVAILABLE

206

STATION: SOUTH POLE LAUNCH DATE: 21 DEC 86 249 Z ECC SONDE: 4A2460
SURFACE CONDITIONS: PRESSURE 680.2 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 72.4 ORD;
O3 ORD ZERO 24.3, BKGND 24.6, CAL 61.0; O3 BKGND .043 MICROAMP; FLOW RATE 27.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 311.; SONDE TOTAL O3 293.; C.F. 1.061

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	680.0	2801	10.9	.016	26.1	.0000	-31.6	-36.2	64.7	269.7		
1	666.0	2949	10.4	.016	24.5	.0002	-28.0	-31.4	74.0	275.3	8.8	352.
2	649.0	3134	10.9	.017	25.8	.0004	-29.7	-33.0	74.2	275.4	8.8	352.
3	633.0	3311	14.4	.023	34.4	.0006	-31.0	-33.7	78.7	275.9	8.2	348.
4	616.0	3503	12.0	.019	28.7	.0009	-32.2	-35.0	77.6	276.7	8.8	342.
5	600.0	3688	10.9	.018	26.4	.0012	-33.6	-36.3	77.9	277.3	8.6	335.
6	586.0	3853	10.1	.017	24.5	.0014	-34.8	-37.6	76.5	277.7	8.2	336.
7	570.0	4046	10.0	.017	24.2	.0016	-34.5	-37.3	77.0	280.3	8.8	340.
8	554.0	4244	10.5	.019	25.5	.0018	-34.9	-39.0	67.0	282.1	9.0	342.
9	539.0	4435	9.9	.018	24.0	.0020	-35.4	-39.9	64.8	283.6	9.2	342.
10	524.0	4630	9.4	.018	23.0	.0022	-36.9	-40.7	68.9	284.2	9.6	343.
11	510.0	4817	9.5	.019	23.3	.0024	-37.8	-41.8	67.8	285.2	9.2	344.
12	498.0	4980	9.5	.019	23.4	.0026	-39.1	-42.8	68.9	285.7	10.1	342.
13	482.0	5203	9.1	.019	22.6	.0029	-40.4			286.7	10.1	341.
14	470.0	5374	10.2	.022	25.4	.0031	-41.7			287.2	9.1	342.
15	458.0	5548	10.6	.023	26.7	.0033	-42.9			287.8	10.1	347.
16	444.0	5756	10.2	.023	25.7	.0035	-44.5			288.4	10.2	350.
17	431.0	5954	13.2	.031	33.5	.0038	-45.8			289.2	9.6	348.
18	418.0	6157	14.2	.034	36.3	.0041	-46.8			290.4	9.3	345.
19	407.0	6333	14.2	.035	36.3	.0044	-47.4			291.9	9.2	347.
20	396.0	6513	14.1	.036	36.4	.0047	-48.4			292.9	9.9	350.
21	384.0	6714	13.8	.036	35.7	.0051	-49.7			293.7	9.9	350.
22	373.0	6903	13.5	.036	35.0	.0054	-50.8			294.7	8.7	348.
23	363.0	7079	14.4	.040	37.7	.0057	-51.6			296.0	8.7	345.
24	351.0	7297	17.8	.051	46.5	.0061	-51.9			296.4	8.8	344.
25	342.0	7464	14.6	.043	38.5	.0064	-53.1			298.9	8.7	344.
26	332.0	7654	15.1	.045	39.7	.0068	-54.3			300.0	9.8	343.
27	321.0	7869	19.4	.060	51.4	.0073	-54.7			302.2	10.1	342.
28	311.0	8071	22.7	.073	60.0	.0078	-55.2			304.3	10.0	343.
29	301.0	8279	28.4	.094	75.3	.0084	-55.1			307.3	9.8	342.
30	292.0	8473	37.0	.127	97.6	.0092	-54.3			311.2	9.5	340.
31	283.0	8673	44.6	.157	117.1	.0102	-53.8			314.7	9.3	340.
32	275.0	8857	52.7	.192	138.4	.0113	-53.1			318.2	8.8	340.
33	266.0	9071	56.9	.214	148.7	.0128	-52.7			321.9	7.4	338.
34	258.0	9268	61.5	.238	160.7	.0142	-52.0			325.6	7.0	340.
35	250.0	9472	65.6	.262	170.6	.0158	-51.4			329.5	7.6	342.
36	242.0	9683	69.7	.288	181.1	.0175	-51.0			333.3	5.8	343.
37	235.0	9874	70.0	.296	181.7	.0191	-50.8			336.3	5.4	343.
38	228.0	10071	70.0	.307	181.6	.0208	-50.7			339.5	7.3	342.
39	219.0	10333	72.9	.333	188.8	.0231	-50.3			343.9	7.1	341.
40	212.0	10544	69.2	.326	179.2	.0249	-50.3			347.1	5.2	341.
41	206.0	10731	51.6	.250	133.7	.0263	-50.5			349.7	5.2	342.
42	198.6	10970	61.5	.310	158.7	.0279	-49.4			355.0	7.5	345.
43	192.4	11177	70.9	.368	182.9	.0295	-49.3			358.5	7.3	351.
44	186.2	11391	71.1	.382	183.0	.0314	-48.8			362.6	5.6	360.
45	180.2	11606	69.6	.386	178.8	.0332	-48.7			366.3	4.7	1.
46	174.2	11828	68.8	.395	176.7	.0350	-48.1			370.8	3.7	6.
47	168.5	12047	71.7	.426	183.9	.0369	-48.0			374.6	4.7	15.
48	163.2	12258	71.2	.436	181.9	.0387	-47.4			379.0	5.0	24.
49	157.9	12476	71.9	.455	183.7	.0406	-47.2			382.8	5.2	32.

STATION: SOUTH POLE LAUNCH DATE: 21 DEC 86 249 Z ECC SONDE: 4A2460

TIME	PRESS	ALT	OZONE	OZONE	OZDEN	TOTOZ	TEMP	DEWPT	HUM	POT T	WIND	WIND
MIN	MB	GPM	NB	PPMV	GAMMA	ATMCM	C	C	%	K	M/S	DEG
50	152.6	12702	67.0	.439	170.7	.0424	-46.2			388.3	5.9	34.
51	147.6	12923	59.5	.403	151.4	.0441	-46.1			392.3	5.9	28.
52	142.6	13152	70.8	.496	179.6	.0459	-45.6			396.9	5.2	31.
53	137.5	13394	72.7	.528	184.1	.0479	-45.5			401.3	5.1	50.
54	132.6	13636	64.5	.486	163.0	.0499	-44.8			406.8	6.2	40.
55	128.3	13856	71.6	.558	180.6	.0517	-44.2			411.7	6.3	34.
56	124.0	14084	72.6	.585	182.5	.0536	-43.8			416.5	4.1	49.
57	119.8	14315	74.5	.622	186.8	.0556	-42.9			422.1	5.4	43.
58	115.5	14561	81.7	.707	204.1	.0578	-42.1			428.1	6.8	53.
59	111.6	14794	83.6	.749	207.6	.0601	-40.8			434.7	7.3	70.
60	107.8	15030	89.0	.826	220.6	.0624	-40.3			440.0	7.6	54.
61	103.9	15281	84.6	.815	209.3	.0650	-39.7			445.7	7.7	46.
62	100.2	15529	80.0	.798	197.5	.0673	-39.2			451.4	7.8	55.
63	96.8	15765	79.7	.823	195.9	.0695	-38.5			457.2	7.4	61.
64	93.6	15996	79.7	.851	195.8	.0716	-38.3			462.2	8.2	61.
65	90.4	16235	80.1	.886	196.3	.0738	-37.6			468.2	9.6	59.
66	87.3	16476	81.1	.929	198.4	.0760	-36.9			474.2	9.8	57.
67	84.2	16726	84.3	1.002	205.0	.0784	-35.8			481.3	7.9	57.
68	81.2	16978	91.3	1.125	222.1	.0809	-35.8			486.3	7.2	69.
69	78.4	17222	104.3	1.330	252.7	.0836	-34.9			493.1	9.3	69.
70	75.6	17476	113.8	1.505	275.3	.0867	-34.5			499.1	11.8	63.
71	72.8	17740	147.9	2.031	355.9	.0906	-33.3			507.1	13.6	62.
72	70.2	17995	175.8	2.504	422.4	.0953	-32.9			513.2	13.1	58.
73	67.8	18239	182.1	2.686	436.8	.1002	-32.5			519.2	11.2	50.
74	65.3	18504	189.4	2.901	453.6	.1057	-32.0			526.0	10.1	51.
75	62.9	18768	188.5	2.997	451.2	.1113	-32.0			531.6	9.6	69.
76	60.6	19031	191.9	3.166	458.4	.1169	-31.4			538.5	10.7	88.
77	58.8	19244	185.2	3.150	442.3	.1214	-31.4			543.2	10.9	82.
78	56.8	19488	188.5	3.318	451.7	.1265	-32.2			546.7	9.4	61.
79	54.8	19740	178.6	3.260	428.0	.1316	-32.2			552.4	7.8	54.
80	52.8	20002	176.2	3.337	422.2	.1368	-32.2			558.3	5.1	97.
81	50.8	20274	174.2	3.429	416.1	.1422	-31.6			566.0	7.8	118.
82	48.8	20557	161.2	3.304	387.5	.1475	-32.9			569.4	11.4	95.
83	46.7	20866	163.8	3.507	393.4	.1531	-32.9			576.6	10.7	80.
84	44.8	21158	171.6	3.831	411.1	.1586	-32.1			585.4	8.0	68.
85	43.1	21431	157.8	3.662	377.3	.1637	-31.7			592.9	6.6	83.
86	41.6	21681	140.9	3.386	337.6	.1678	-32.2			597.6	8.4	97.
87	40.0	21957	129.8	3.246	312.0	.1720	-32.9			602.7	8.4	91.
88	38.6	22208	127.2	3.295	304.9	.1756	-32.2			610.5	7.1	88.
89	37.1	22487	144.9	3.906	346.7	.1799	-32.0			618.2	6.8	86.
90	35.7	22759	145.6	4.079	346.7	.1843	-30.6			628.4	6.3	93.
91	34.2	23063	136.0	3.976	323.7	.1891	-30.6			636.2	5.9	100.
92	32.8	23359	132.7	4.046	315.9	.1935	-30.6			643.8	7.4	93.
93	31.7	23601	137.8	4.347	327.0	.1971	-30.0			651.9	9.0	94.
94	30.4	23899	146.5	4.819	347.2	.2018	-29.5			661.2	7.8	99.
95	29.3	24162	140.5	4.797	332.9	.2060	-29.5			668.2	6.1	82.
96	28.2	24435	139.5	4.946	330.0	.2102	-29.2			676.3	5.4	91.
97	27.0	24746	134.3	4.974	317.0	.2149	-28.7			686.2	7.6	97.
98	25.9	25043	124.4	4.804	294.0	.2192	-28.9			693.7	9.7	68.
99	24.8	25353	116.3	4.688	273.9	.2233	-28.1			704.6	7.0	72.
100	23.8	25648	114.0	4.791	268.0	.2270	-27.6			714.5	4.2	101.
101	22.9	25925	108.1	4.720	254.3	.2304	-27.6			722.4	5.4	96.
102	21.9	26246	103.4	4.722	242.8	.2342	-27.2			732.8	5.7	98.
103	20.8	26617	98.6	4.743	231.3	.2383	-26.9			744.5	5.0	104.
104	19.8	26972	91.8	4.634	215.1	.2420	-26.9			755.0	6.5	138.

STATION: SOUTH POLE LAUNCH DATE: 21 DEC 86 249 Z ECC SONDE: 4A2460

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	18.8	27345	83.1	4.418	195.0	.2455	-27.2			765.5	5.6	115.
106	17.8	27739	76.5	4.297	179.3	.2490	-26.7			779.2	8.5	61.
107	16.7	28199	71.1	4.256	166.4	.2527	-26.7			793.5	8.4	60.
108	15.9	28553	64.9	4.083	152.3	.2553	-26.9			803.9	4.6	105.
109	15.1	28925	65.2	4.320	152.7	.2580	-26.6			817.1	4.7	149.
110	14.3	29319	57.5	4.020	134.0	.2606	-25.2			834.4	3.6	141.
111	13.5	29737	54.6	4.046	126.9	.2632	-24.7			850.1	4.8	163.
112	13.0	30011	55.6	4.276	128.9	.2648	-24.3			860.6	4.6	98.
113	12.4	30355	55.5	4.474	128.8	.2669	-24.2			872.8	6.1	79.
114	11.9	30655	51.9	4.359	120.3	.2686	-24.2			883.1	4.0	137.
115	11.4	30968	52.4	4.596	121.3	.2704	-23.8			895.5	4.8	134.
116	11.0	31229	51.4	4.677	118.7	.2718	-23.0			907.5	4.4	121.
117	10.6	31500	52.0	4.903	119.6	.2734	-22.4			919.2	4.6	138.
118	10.4	31639	50.4	4.845	115.9	.2741	-22.3			924.7	5.8	133.
119	10.2	31781	48.2	4.721	110.7	.2749	-22.2			930.3	5.1	110.
120	10.0	31926	44.6	4.455	102.4	.2756	-21.6			937.6	2.6	121.
121	9.8	32112	44.8	4.591	102.6	.2765	-21.1			946.4	1.9	200.
122	9.6	32265	43.7	4.576	99.8	.2772	-20.7			953.5	2.5	198.
123	9.4	32397	41.8	4.455	95.5	.2778	-20.6			958.9	3.4	173.
124	9.2	32540	41.8	4.543	95.5	.2785	-20.3			965.3	3.4	173.

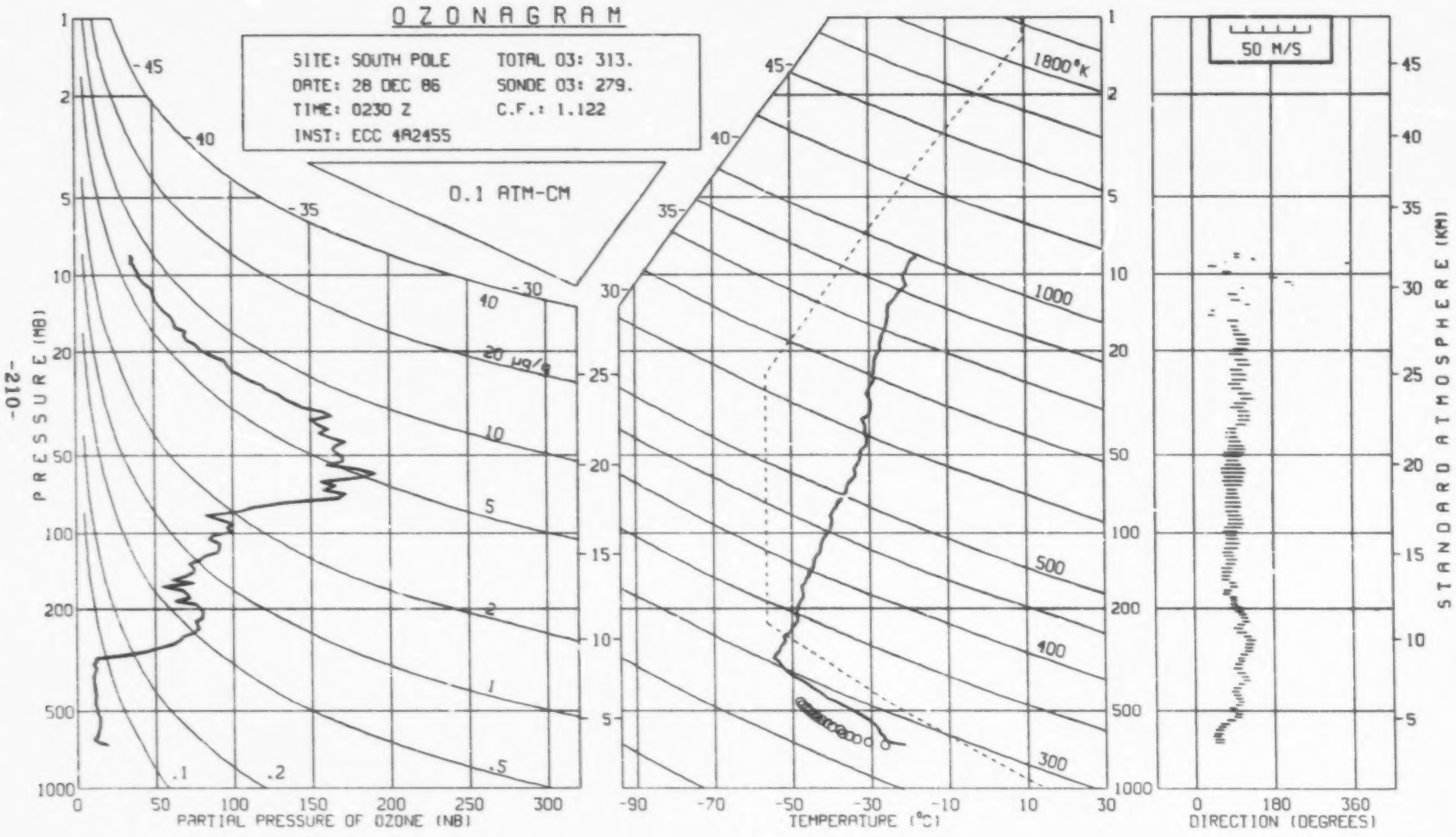
UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
10.7	24.1	68.3	108.0	158.1	104.9	999.9	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110121128603   00311   991.061   ECC    TOTAL O3 FROM SONDE DATA  293
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110221128603    680 11-32        500 10-39342 10 300 29-55342 10 200 60-50344  7
1110321128603    150 63-46 31  6 100 80-39 55  8  70176-33 57 13  50169-32109  9
1110421128603     30144-30 93  720.0 93-27131  610.0 45-22121  3 666 10-28 -8  9
1110521128603    586 10-35336  8 539 10-35342  9 373 13-51348  9 332 15-54343 10
1110621128603    275 53-53340  9 242 70-51343  6 219 73-50341  7 212 69-50341  5
1110721128603    206 52-51342  5 192 71-49 -9  7 158 72-47 32  5 138 73-46 50  5
1110821128603    133 64-45 40  6 108 89-40 54  8  87 81-37 57 10  81 91-36 69  7
1110921128603     76114-35 63 12  61192-31 88 11  49161-33 95 11  45172-32 68  8
1111021128603     40130-33 91  8  39127-32 88  7  37145-32 86  7  33133-31 93  7
1111121128603   15.1 65-27149  5 9.2 42-20173  3
```



BEST COPY AVAILABLE

STATION: SOUTH POLE LAUNCH DATE: 28 DEC 86 230 Z ECC SONDE: 4A2455
SURFACE CONDITIONS: PRESSURE 683.9 MB, TEMPERATURE C, HUMIDITY %
CAL DATA: AIR TEMP 30.0 C AT 73.1 ORD; HUM 33.0 % AT 78.0 ORD; TBOX 30.0 C AT 72.6 ORD;
O3 ORD ZERO 24.6, BKGND 24.9, CAL 57.8; O3 BKGND .048 MICROAMP; FLOW RATE 27.1 S/100 ML
FLIGHT NORMALIZED TO TOTAL O3 313.; SONDE TOTAL O3 279.; C.F. 1.122

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
0	684.0	2799	19.4	.028	44.6	.0000	-21.6	-26.8	63.7	280.4		
1	667.0	2982	13.2	.020	30.9	.0003	-26.0	-31.1	63.4	277.5	6.1	53.
2	650.0	3168	10.7	.016	25.0	.0006	-26.7	-34.1	50.2	278.8	6.1	53.
3	633.0	3359	12.5	.020	29.2	.0008	-27.1	-35.9	43.6	280.4	5.0	47.
4	618.0	3531	13.0	.021	30.7	.0011	-28.0	-37.7	39.4	281.3	5.5	51.
5	599.0	3755	13.7	.023	32.2	.0014	-28.3	-38.3	37.9	283.5	5.7	54.
6	582.0	3961	14.4	.025	34.0	.0017	-28.8	-40.3	32.5	285.2	5.1	59.
7	565.0	4172	14.5	.026	34.3	.0020	-29.6	-41.6	30.6	286.7	5.4	66.
8	547.0	4402	14.6	.027	34.8	.0024	-30.9	-43.0	29.9	287.8	5.3	80.
9	530.0	4625	14.6	.028	34.9	.0028	-32.2	-44.2	29.9	288.8	4.8	96.
10	516.0	4813	13.1	.025	31.6	.0031	-33.4	-45.2	29.9	289.6	4.5	98.
11	501.0	5019	12.6	.025	30.4	.0034	-34.9	-46.3	30.6	290.3	4.3	87.
12	488.0	5201	12.7	.026	30.9	.0036	-36.2	-46.8	33.1	290.8	4.4	85.
13	473.0	5416	11.7	.025	28.7	.0039	-37.8	-47.9	34.8	291.4	4.1	98.
14	460.0	5607	11.6	.025	28.6	.0042	-39.2	-48.4	37.6	292.1	4.0	104.
15	446.0	5817	11.7	.026	29.0	.0045	-41.3			292.1	4.7	99.
16	432.0	6033	12.0	.028	30.2	.0048	-42.4			293.3	4.7	95.
17	419.0	6238	11.4	.027	28.8	.0050	-43.6			294.3	4.8	90.
18	405.0	6449	11.4	.028	29.1	.0053	-45.2			294.9	4.9	95.
19	392.0	6682	10.9	.028	27.8	.0056	-46.6			296.0	4.7	106.
20	380.9	6887	10.8	.028	27.6	.0059	-48.0			296.9	4.3	116.
21	368.0	7097	10.3	.028	26.7	.0062	-49.7			297.3	4.5	112.
22	355.0	7331	11.1	.031	28.8	.0065	-51.4			298.1	5.1	104.
23	342.0	7572	12.3	.036	32.2	.0068	-52.5			299.8	5.2	97.
24	330.0	7802	10.5	.032	27.6	.0071	-53.3			301.8	4.4	99.
25	321.0	7979	12.3	.038	32.5	.0074	-53.8			303.5	3.8	106.
26	312.0	8161	12.3	.040	32.7	.0077	-55.1			304.2	4.3	105.
27	301.0	8390	34.8	.116	91.8	.0083	-54.4			308.3	4.6	111.
28	292.0	8584	45.1	.154	118.4	.0093	-53.5			312.3	5.0	123.
29	283.0	8785	53.4	.189	140.3	.0105	-53.3			315.3	5.3	122.
30	274.0	8993	61.8	.226	161.8	.0120	-52.4			319.6	5.5	124.
31	265.0	9209	65.8	.248	171.8	.0137	-52.0			323.2	5.6	128.
32	257.0	9407	68.0	.265	177.9	.0153	-52.4			325.5	5.2	119.
33	248.0	9638	74.6	.301	193.9	.0173	-51.0			330.9	5.2	106.
34	239.0	9878	78.3	.328	202.9	.0195	-50.3			335.4	5.8	98.
35	232.0	10072	77.2	.333	199.5	.0213	-49.6			339.4	4.7	105.
36	225.0	10272	76.0	.338	195.4	.0232	-48.8			343.5	4.5	116.
37	218.0	10479	80.5	.369	206.9	.0251	-48.8			346.6	4.3	113.
38	211.0	10693	80.5	.381	207.5	.0272	-49.3			349.2	4.5	109.
39	205.0	10882	80.7	.394	207.8	.0290	-48.8			352.8	5.0	101.
40	197.5	11126	78.3	.397	201.7	.0314	-48.8			356.6	5.0	94.
41	191.4	11332	76.4	.399	196.5	.0333	-48.5			360.2	4.4	89.
42	185.3	11545	63.9	.345	163.7	.0351	-48.0			364.6	4.7	89.
43	179.2	11766	72.5	.405	185.4	.0369	-47.4			369.0	4.5	87.
44	173.2	11991	70.9	.409	181.4	.0388	-47.4			372.6	4.5	72.
45	167.3	12220	67.7	.404	173.2	.0407	-47.5			376.1	4.8	75.
46	161.3	12461	56.1	.348	143.8	.0425	-47.7			379.8	4.6	90.
47	156.0	12682	73.5	.471	187.5	.0442	-46.8			384.9	4.5	86.
48	151.0	12898	61.8	.409	157.6	.0459	-46.6			388.8	5.1	70.
49	146.0	13121	69.9	.479	177.6	.0477	-45.9			393.8	5.7	71.

STATION: SOUTH POLE LAUNCH DATE: 28 DEC 86 230 Z ECC SONDE: 4A2455

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
50	141.0	13353	74.7	.530	189.9	.0497	-45.8			398.0	7.0	74.
51	136.2	13584	75.3	.553	190.6	.0517	-44.9			403.4	6.8	73.
52	131.5	13818	72.2	.549	182.0	.0538	-44.5			408.3	6.6	82.
53	126.8	14061	79.0	.623	199.5	.0560	-44.5			412.5	7.2	84.
54	122.2	14308	82.5	.675	207.8	.0583	-43.9			418.0	6.8	78.
55	118.5	14514	90.1	.760	226.0	.0604	-43.1			423.2	7.6	75.
56	114.7	14733	91.2	.795	228.8	.0627	-42.8			427.7	9.3	83.
57	110.2	15003	91.5	.830	229.2	.0656	-42.7			432.9	9.3	87.
58	105.8	15278	84.8	.802	212.1	.0685	-42.2			438.7	8.2	86.
59	102.3	15505	87.6	.857	218.6	.0707	-41.5			444.3	7.4	83.
60	98.7	15748	99.2	1.005	246.2	.0734	-40.6			450.7	8.4	81.
61	95.5	15972	96.3	1.008	238.8	.0759	-40.3			455.5	11.2	88.
62	92.3	16204	100.0	1.063	247.4	.0786	-40.0			460.5	10.5	95.
63	89.1	16445	91.8	1.030	227.1	.0812	-39.9			465.5	9.8	95.
64	85.9	16694	83.7	.975	207.5	.0838	-40.3			469.5	9.2	91.
65	82.9	16936	104.1	1.256	257.7	.0864	-39.7			475.5	8.7	86.
66	80.0	17179	112.4	1.406	277.1	.0894	-38.9			482.0	10.1	88.
67	77.0	17441	132.8	1.724	326.5	.0931	-38.4			488.4	9.8	88.
68	74.1	17705	167.4	2.260	409.5	.0977	-37.0			496.6	8.8	87.
69	71.4	17962	171.6	2.403	418.3	.1027	-36.4			503.4	7.3	87.
70	68.8	18219	158.5	2.303	386.2	.1075	-36.2			509.0	6.8	86.
71	66.4	18465	164.9	2.483	401.4	.1120	-36.0			514.8	11.6	88.
72	64.0	18721	157.2	2.457	381.4	.1167	-35.2			522.0	13.8	89.
73	61.7	18976	180.6	2.927	435.8	.1216	-34.0			530.1	12.5	90.
74	59.3	19254	190.2	3.208	458.9	.1274	-33.8			536.5	15.5	90.
75	56.9	19543	179.3	3.152	433.3	.1334	-34.2			542.0	15.6	89.
76	54.8	19806	161.2	2.941	388.2	.1384	-33.4			549.6	10.5	89.
77	52.8	20067	170.2	3.224	408.8	.1433	-32.8			557.0	7.9	88.
78	50.8	20338	170.1	3.349	408.5	.1485	-32.6			563.5	11.5	88.
79	48.9	20606	166.1	3.396	398.7	.1535	-32.6			569.7	13.1	92.
80	47.3	20840	163.6	3.459	391.9	.1579	-32.1			576.4	11.6	96.
81	45.9	21052	165.5	3.606	394.5	.1618	-30.9			584.3	10.6	96.
82	44.2	21319	171.5	3.880	408.8	.1668	-30.9			590.6	9.0	92.
83	42.7	21563	162.5	3.806	387.4	.1713	-30.9			596.4	8.0	86.
84	41.1	21833	155.3	3.779	370.9	.1761	-31.3			602.0	7.2	84.
85	39.6	22096	160.9	4.064	384.2	.1808	-31.3			608.4	6.6	87.
86	38.1	22369	155.0	4.068	370.0	.1356	-31.3			615.2	6.6	107.
87	36.6	22653	150.4	4.109	360.1	.1904	-32.0			620.6	7.3	114.
88	35.3	22909	162.8	4.613	387.5	.1949	-30.5			630.8	7.5	114.
89	34.0	23176	157.6	4.634	374.0	.1996	-29.9			639.3	8.1	113.
90	32.8	23432	145.3	4.431	345.0	.2039	-29.9			645.9	8.7	99.
91	31.6	23697	139.7	4.421	331.4	.2081	-29.7			653.2	8.0	106.
92	30.4	23972	133.5	4.393	317.5	.2123	-30.2			659.0	8.3	122.
93	29.1	24282	129.1	4.435	307.7	.2168	-30.9			665.5	8.2	116.
94	27.9	24581	121.8	4.364	289.4	.2210	-30.4			675.0	7.8	100.
95	26.8	24867	118.6	4.426	281.1	.2248	-29.6			685.1	7.9	92.
96	25.8	25138	111.3	4.315	263.3	.2283	-29.1			694.0	9.2	104.
97	24.7	25449	105.5	4.271	249.6	.2320	-29.2			702.4	9.5	104.
98	23.7	25744	99.2	4.186	234.7	.2353	-29.1			711.1	8.0	98.
99	22.7	26052	97.2	4.281	229.8	.2387	-28.9			720.3	8.3	115.
100	21.7	26374	95.2	4.385	225.1	.2421	-28.9			729.6	8.2	109.
101	20.6	26746	86.0	4.173	202.8	.2458	-28.3			742.5	8.5	97.
102	19.7	27067	80.1	4.067	188.3	.2487	-27.3			754.9	7.9	108.
103	18.6	27483	76.4	4.109	179.7	.2523	-27.5			767.0	7.4	114.
104	17.9	27756	71.3	3.981	167.1	.2545	-27.1			776.7	8.3	113.

STATION: SOUTH POLE LAUNCH DATE: 28 DEC 86 230 Z ECC SONDE: 4A2455

TIME MIN	PRESS MB	ALT GPM	OZONE NB	OZONE PPMV	OZDEN GAMMA	TOTOZ ATMCM	TEMP C	DEWPT C	HUM %	POT T K	WIND M/S	WIND DEG
105	17.1	28085	69.5	4.062	162.9	.2570	-26.9			787.3	8.3	106.
106	16.4	28386	70.3	4.284	164.3	.2594	-26.2			799.4	4.4	97.
107	15.8	28655	63.7	4.034	148.9	.2613	-25.9			808.8	3.9	93.
108	15.0	29031	63.1	4.205	147.2	.2639	-25.6			821.8	7.1	91.
109	14.3	29377	60.9	4.261	142.0	.2663	-25.4			834.0	4.1	41.
110	13.7	29688	56.4	4.120	131.5	.2682	-25.5			843.8	2.2	45.
111	13.0	30068	53.2	4.092	123.9	.2705	-25.2			857.4	3.7	124.
112	12.5	30353	51.3	4.103	118.8	.2721	-23.9			871.7	5.7	96.
113	11.9	30712	49.7	4.178	114.6	.2741	-23.0			887.4	6.2	90.
114	11.3	31092	48.6	4.300	111.4	.2761	-21.5			905.9	1.9	113.
115	11.0	31290	46.2	4.203	105.7	.2771	-20.6			916.3	1.8	227.
116	10.7	31494	43.8	4.090	100.3	.2781	-21.1			921.6	4.3	217.
117	10.3	31775	41.6	4.042	95.4	.2794	-21.4			930.7	5.6	184.
118	10.0	31992	39.8	3.984	91.3	.2803	-21.5			938.1	3.5	165.
119	9.8	32141	40.3	4.111	92.1	.2810	-20.8			946.0	4.8	78.
120	9.3	32528	37.9	4.079	86.7	.2826	-20.3			962.3	5.2	44.
121	9.1	32689	37.7	4.144	85.8	.2832	-19.9			969.9	2.7	352.
122	9.0	32770	35.2	3.915	80.2	.2835	-19.8			973.4	1.0	74.
123	8.8	32936	36.4	4.132	82.8	.2842	-19.5			980.8	1.4	139.
124	8.7	33021	35.8	4.115	81.4	.2845	-18.9			986.1	1.9	137.
125	8.6	33107	36.8	4.280	83.4	.2848	-18.1			992.5	3.3	100.
126	8.4	33282	35.1	4.182	79.6	.2855	-18.3			998.7	3.3	100.

UMKEHR LAYER AVERAGED OZONE PARTIAL PRESSURE IN NANOBARS

SFC-500MB	500-250	250-125	125-62.5	62.5-31.2	31.2-15.6	15.6-7.8	7.8-3.9
13.7	24.6	73.2	115.2	163.5	95.9	48.6	999.9

CODED SONDE DATA - WODC FORMAT

STATION: SOUTH POLE ANTARCTICA OZONE VERTICAL DISTRIBUTION INSTRUMENT: ECC

```
ISNNNYYMMJJGG   LSXXX XP T CORR   COMMENTS
1110128128602   00313   991.122   ECC    TOTAL O3 FROM SONDE DATA  279
ISNNNYYMMJJGG   PPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFFPPPP P3TTTDDDFFF
1110228128602    684 19-22       500 13-35 87  4 300 36-54112  5 200 79-49 96  5
1110328128602    150 63-46 70  5 100 95-41 82  8  70165-36 86  7  50168-33 90 12
1110428128602     30132-30120  820.0 82-28104  810.0 40-22165  4 667 13-26 53  6
1110528128602    565 14-30 66  5 355 11-51104  5 312 12-55105  4 274 62-52124  6
1110628128602    239 78-50 98  6 225 76-49116  5 191 76-49 89  4 185 64-48 89  5
1110728128602    179 72-47 87  5 167 68-48 75  5 161 56-48 90  5 156 74-47 86  5
1110828128602    141 75-46 74  7 132 72-45 82  7 119 90-43 75  8 106 85-42 86  8
1110928128602     92100-40 95 11  86 84-40 91  9  77133-38 88 10  74167-37 87  9
1111028128602     71172-36 87  7  64157-35 89 14  62181-34 90 13  59190-34 90 16
1111128128602     55161-33 89 11  53170-33 88  8  47164-32 96 12  44171-31 92  9
1111228128602     41155-31 84  7  40161-31 87  7  37150-32114  7  35163-31114  8
1111328128602   13.0 53-25124  411.0 46-21227  2 8.4 35-18100  3
```